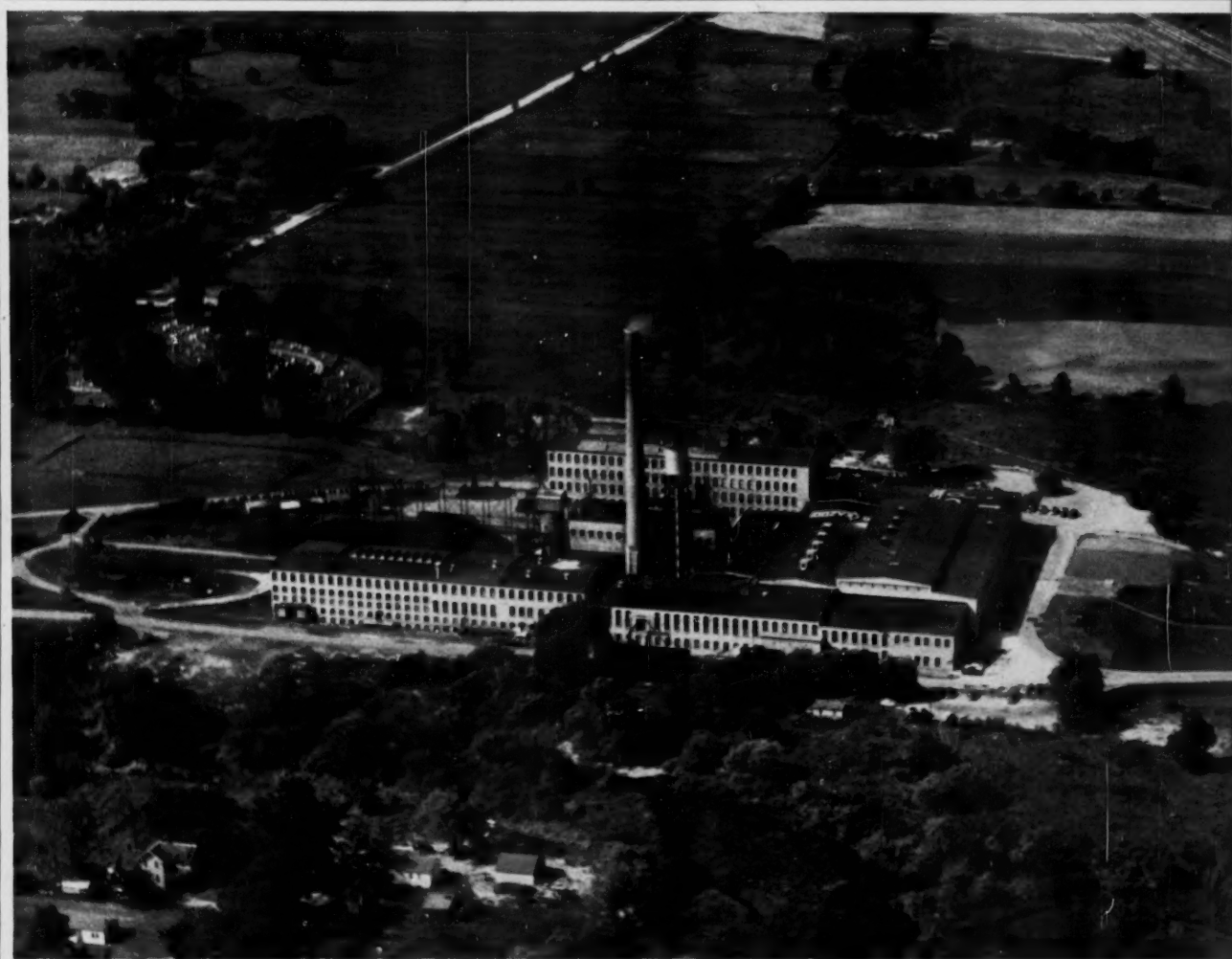


PULP & PAPER

"the Cellulose Age"

FEBRUARY 1952 VOL 26 - NO. 2



AIR VIEW OF LEE PAPER COMPANY — VICKSBURG, MICHIGAN — STORY IN THIS ISSUE

Also: De-inking in New England
Government and Business—An Analysis
Background of Munising Mill Sale

Looking Backward—Looking Forward
on Our Silver Anniversary
Cressett's Forest Use Management

PEXOL*

(HERCULES FORTIFIED SIZE)

**AN IMPORTANT
DEVELOPMENT
FOR PAPER
MAKERS**



Hercules' Pexol, formerly known as Dresinate® 209, is gaining wide use among paper mills all over the country.

Why?

Because this fortified rosin size is cheaper to use than conventional sizes—mill operators report that Pexol is highly efficient, particularly for difficult sizing problems. Pexol is readily available in paste or dry form. Try it and prove to yourself how this fortified rosin size can help you solve difficult sizing problems and save money, too.

Hercules' research is constantly at work to produce new and better products for the paper industry such as Pexol and Size-Aid. Illustrated above is the Hercules Photometer, a precision tool developed by Hercules to measure accurately transduction rates of liquids through paper.

For further information and technical data about Hercules' research in the papermaking industry, or for samples of Pexol or Size-Aid, write to:

SIZE-AID*

GAINS WIDE USE, TOO

Hercules' Size-Aid, formerly known as Dresinate® 211, is a dry, concentrated size additive formulated to increase the efficiency of rosin size.




HERCULES POWDER COMPANY

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*TRADE-MARK

PP51-9



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in-the-mill service on new lines and prompt
delivery of your current color needs,
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National Aniline **PAPER DYES**

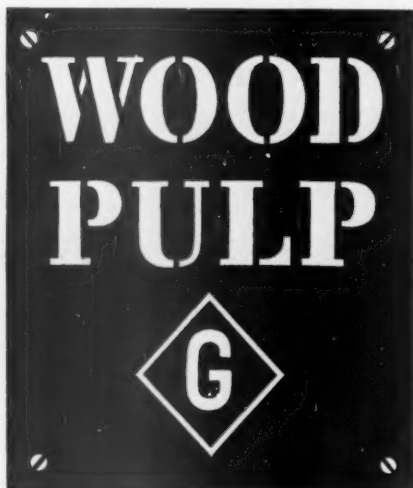
Colors shown are very close approximations
of results on 100% unbleached sulfate pulp

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Established 1886



"Freedom everywhere depends on the continuance of a system of free enterprise that is a constant daily challenge of the status quo."

ERWIN D. CANHAM
Editor, Christian Science Monitor

The unflagging search for new products and unremitting desire to improve old ones has been the Pulp and Paper Industry's challenge to the status quo. The vast development program of the industry for 1952 should indeed be helpful toward the continuance of a system of free enterprise.



GOTTESMAN & COMPANY

— INCORPORATED —

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Mexico's "Grand Old Man", Don Alberto, Passes

The pulp and paper industry of Latin America has lost one of its two or three greatest leaders. German-born Don Alberto Lenz, Senior, died Dec. 16 in his 85th year.

Just a few years ago, a PULP & PAPER editor met this "Grand Old Man" of the Mexican industry, wearing a black skull cap, sitting in a little cubicle of an office in a mill in Mexico City's Villa Obregon suburb. But the Mexican Revolution could not destroy the old religious name of the suburb—San Angel—the name it still goes by despite all contrary signs and official orders. Just as old-fashioned as the old names was the roll-top desk and the upright telephone that Don Alberto was using.

But there has been nothing old-fashioned about his paper-making techniques or his mills, which are among the most efficient, cleanest and finest-appearing south of the Rio Grande. Their 600 employees are the only ones in any important industry not organized in outside labor unions and yet are among the best paid labor, also having insurance, schools and clinics provided by the company.

In 1900 Don Alberto, an immigrant from Germany, built the El Progreso mill which he sold five years later to the San Rafael company. He built the Loreto and Pena Pobre paper mills and kraft pulp mill at Pena Pobre, and three sons headed up the divisions: Hans, the eldest and the heir to overall direction; Walther, and their half-brother, Alberto, Jr. In 1950 a sixth machine—a Rice Barton 134 in. Fourdrinier—was added to their operations.

Don Alberto sent his sons to the U. S. and abroad to learn the latest in papermaking; now a grandson, son of Hans, has entered the paper school at the University of Maine.

Almost to his last days, Don Alberto was active head of his companies. But the traditions he started are carried on by other capable leaders in his family.

More Power For Pulp and Paper

It has all happened so gradually that few people have stopped to realize that something new has been added to the pulp and paper industry—rayon and acetate!*

Developments of the past year, particularly, have worked to identify them with woodpulp production to such an extent as to make the identity of interest complete. During this year, for example, we have seen American Viscose Corp. and Celanese Corp. of America, who between them produce more than half the entire U. S. output of acetate and viscose yarns, bring themselves into

* Celanese and Tennessee Eastman Corp. have termed their textile products produced by the acetate process as "acetate" as distinct from the viscose process used by American Viscose and some of the other rayon producers.

The Federal Trade Commission recently officially recognized and used the term "acetate" to differentiate it from "rayon."



PULP & PAPER circulates all over the world. It is read in virtually every pulp and paper company office and mill throughout the United States, Canada, Mexico, Alaska, Hawaii, the Philippines, Australia and New Zealand. It is read in many other offices and mills in Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Uruguay, Venezuela, England, Ireland, Scotland, Sweden, Norway, Finland, France, Germany, Austria, Belgium, Holland, Czechoslovakia, Italy, Spain, Switzerland, Soviet Russia, Poland, Yugoslavia, India, Pakistan, Israel, South Africa, China, Japan, Formosa, both near and far around the world, where pulp and paper are made.

February 1952

the pulp and paper industry through establishment of, or plans to establish, mills for the production of high alpha woodpulp.

Rayon production in 1951 is expected to be close to 700,000 tons, with approximately 80% of this production being through use of purified woodpulp, and only 20% or so from cotton linters. These same producers are also producers of cellophane and cellulose acetate film and plastics which will require use of another 200,000 tons of cellulose pulp annually.

Although the companies which have thus become identified with the pulp and paper industry are vigorous and powerful in their own right, they will find powerful support for their interests in an industry which has been in operation in this country for over 100 years, and which ranks as the fifth or sixth largest in the nation. To these welcome newcomers it might be pointed out that the trade associations representing pulp and paper are among the most active and strongest in America. They have soundly protected the interests of their people in a way to contribute to the economic growth of both the industry and the country. They will continue to do so.

PULP & PAPER Is Praised

Writes E. L. Stockinger, of The Stockinger Co., Advertising-Sales Counsel, of St. Cloud, Minnesota:

"We have always found the news content and format of PULP & PAPER most interesting. We are sure they enjoy unusually high readership."

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CAMACHINE 20, pacemaker for the Camachine line of high speed mill type winders. For information request Bulletin 3020.

AA-250

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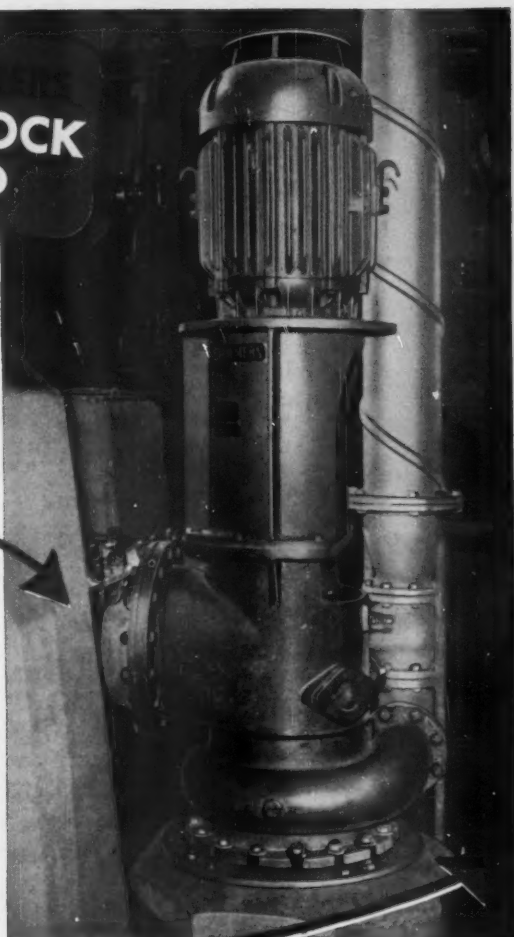
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New

PAPER STOCK PUMP

Vertical Design-

Saves Floor Space!



FLOOR SPACE COSTS MONEY and you can save a substantial amount by using the new Allis-Chalmers Vertical Paper Stock Pump. In new installations, it may be possible to tuck the pump away in a corner and thus utilize otherwise empty space. In modernization programs, a vertical pump may be the only method of fitting new equipment into existing space.

The basic pump design is the same as the reliable and performance-proved Type PW horizontal design. Notice the extremely large inlet which is standard regardless of pump size. Designed to handle up to 8% stock (when used with *Hi-Density Feeder*) and available in many materials, the Allis-Chalmers Vertical Paper Stock Pump is well suited to almost every paper mill operation. It will efficiently handle

all types of acid and alkaline liquors as well as all types of high consistence stock.

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Allis-Chalmers can supply the complete pumping unit — pump, motor and control — all of one coordinated design and manufacture. You don't have to worry about matching components and divided responsibility. And Allis-Chalmers pump application engineers are familiar with all phases of paper mill operation. They know your problems and can help you solve them. Get complete information on the new Allis-Chalmers Vertical Paper Stock Pump and what it can do for you. Call your nearby Allis-Chalmers District Office or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3567

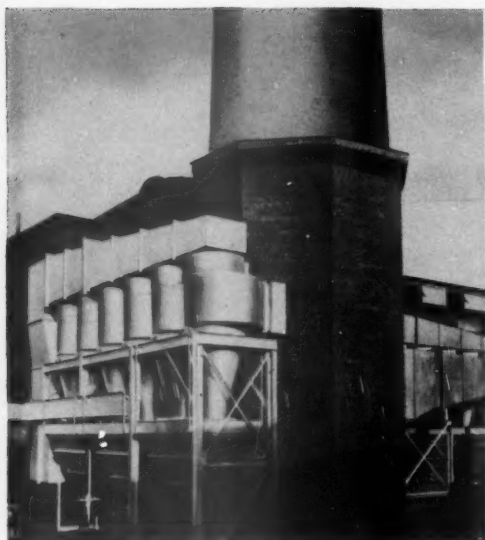
Hi-Density is an Allis-Chalmers trademark.

ALLIS-CHALMERS



February 1952

5



Large installation of Buell van Tongeren Cyclones collecting fly ash from boilers at a paper plant.

How to Keep Stack Dust Down Now

- *This industrial 'dust' man can help determine the Fly Ash or Soda Ash Recovery System most efficient for you!*

The Buell organization of industrial 'dust' men is devoted solely to the design and construction of dust collection and dust recovery equipment that will most efficiently and economically solve your plant's specific Stack Dust problem.

For more than 18 years we have been doing just this for all American industry. Every Buell installation is a custom-designed system, engineered to hold stack dust discharge down to the practical limits which assure new profits, improved product and/or process, better plant-community relations, higher levels of employee morale.

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TYPE 'LH' COLLECTORS • LOW DRAFT LOSS COLLECTORS
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ENGINEERED EFFICIENCY IN DUST RECOVERY

PULP & PAPER

**WRENN
PAPER
COMPANY**

SELECTS B & S

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The Wrenn Paper Company, widely recognized for its high quality products, was faced with the problem of slitting a hard-to-handle material. Clean, square edges and uniformly wound rolls were of utmost importance.

After considering several machines, the Bagley & Sewall #15 Shear-Cut Slitter-Rewinder was selected.

B & S Slitters and Rewinders are doing outstanding jobs in mills and converting plants all over the country. Their many unique money-saving advantages make them the first choice of the industry. Before you buy, *compare*...and your choice, too, will be B & S Slitting and Rewinding equipment.

For full details write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.

*Inserts show
Shear-Cut
Slitter Units*



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designers and builders of

PAPERMAKING MACHINERY

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February 1952

ASTEN *dryer felts*



**What type
of seam?**

Any type of seam can be used
with ASTEN dryer felts.

Ask our representative for details, or write
for our booklet describing and illustrating
different methods of making seams.

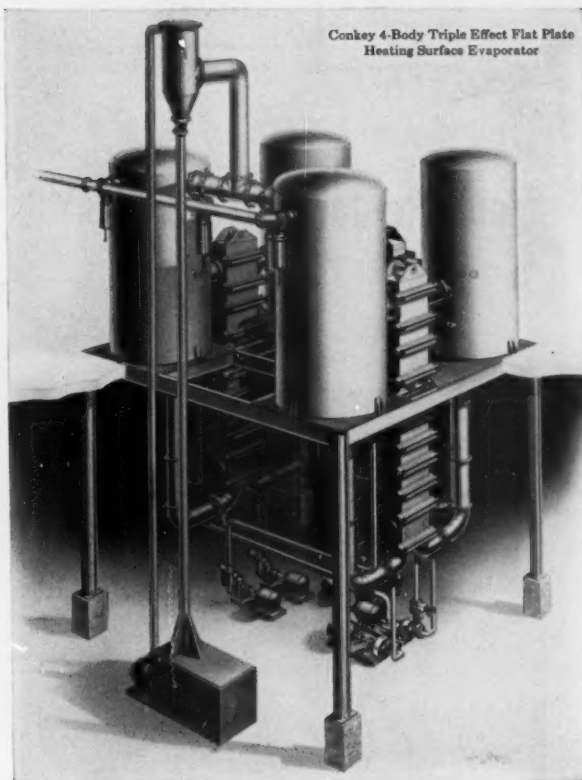
Economy in the long run

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NO *shut down time!*
stream pollution!
scale removal costs!



Conkey 4-Body Triple Effect Flat Plate
 Heating Surface Evaporator

**Conkey Flat Plate
 Heating Surface
 Evaporator
 with Rosenblad
 Switching System***

The proven system for avoiding stream pollution by sulphite pulp mill waste liquors that proved so outstandingly successful in commercial installations all over Scandinavia, is now adapted for use in this country by General American. *In every instance where a Rosenblad Switching System has been installed, shut down time and scale removal costs have been practically eliminated!* The Rosenblad System utilizes the condensate wash as a descaling operation carried on during full capacity operation of the evaporator. Surfaces subjected to boiling liquor are periodically switched with those in contact with vapor and condensate to clean heating surfaces during normal continuous operation. *Every part of the equipment is switched, consequently scale is washed away from pipe lines, valves and vessels . . . in addition to heating surfaces.*

At present in this country . . . Rosenblad Switching Systems in Conkey Flat Plate Heating Surface Evaporators are being constructed for full scale commercial operations. Write today for detailed bulletin.

*Patents Applied for

GENERAL AMERICAN

PROCESS



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*They last longer,
need less maintenance—*



Photo courtesy Magnus Metal Corporation, Fitchburg, Mass.

Can Inconel Screen Plates Reduce Your Replacement Costs?

Nearly nine years ago, a Canadian mill decided to see if they could get longer service life from screen plates. Up to that time, the best screen plates tried had failed through corrosion or fatigue, after only about a year of service.

Then, in 1943, they tried screen plates of Inconel®. Today — *nearly nine years later* — these Inconel plates look as good as new.

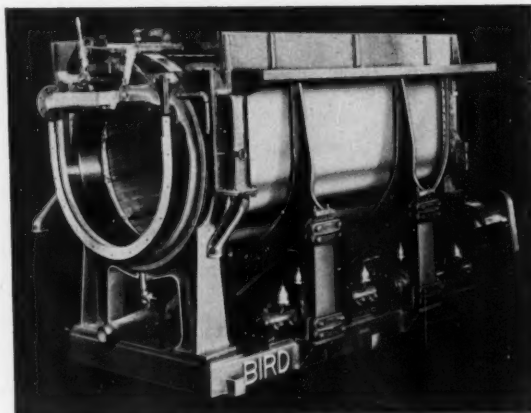
This long plate life can be credited to two outstanding characteristics of Inconel — exceptional resistance to fatigue and corrosion by mill stocks.

Inconel is virtually unaffected by chemicals used in the pulp and paper mill. And — because Inconel does not readily work-harden — it is capable of withstanding severe vibration and shock which often cause other metals to fail through "fatigue."

For further information about Inconel screen plates, write directly to Magnus Metal Corporation, Fitchburg, Mass.

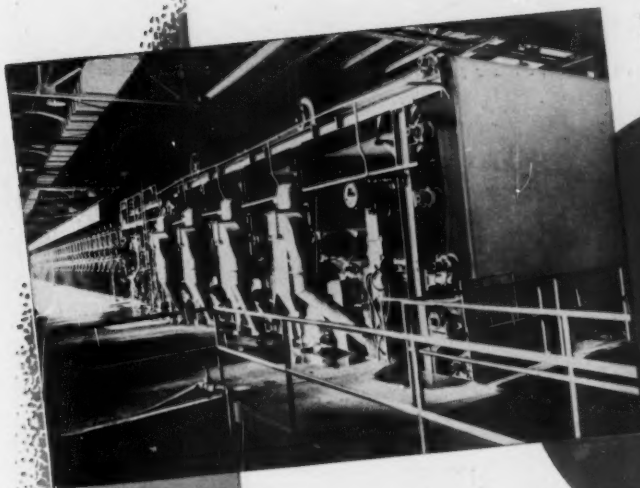
Right now the INCO Nickel Alloys are on extended delivery because so much is needed for defense. So, it's wise to anticipate your needs and place your orders (with necessary N.P.A. ratings) with your INCO distributor well in advance.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.



Inconel screen plates in position on a Bird machine. Photo courtesy Bird Machine Co., South Walpole, Mass.

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NICKEL  ALLOYS
MONEL® • "R"® MONEL • "K"® MONEL • "KR"® MONEL • "S"® MONEL
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Alton's No. 3 machine, world's record strawboard producer. Photo courtesy of Alton Box Board Company, Alton, Illinois.

Nalco
3 WAY
SERVICE

at Alton Box Board Company

HERE are the three water treatment services performed by Nalco at Alton Box Board Company, Alton, Illinois. In addition, experimental work on process waters using Nalco anti-foam chemicals is now being done at Alton:

① SLIME CONTROL chemicals, fitted to Alton Box Board requirements, help maintain high quality... prevent slime spots and breaks due to slime.

② CLARIFICATION of mill water with Nalco #680 Sodium Aluminate... A versatile chemical also used widely for size control and maximum alum availability.

③ BOILER WATER TREATMENT with specially-processed organic chemicals for use in high-capacity, high-pressure boilers.

Use of Nalco Chemicals and Services at Alton Box Board Company shows clearly the wide extent to which good water treatment, properly applied, can be utilized to make over-all mill operation cleaner, more efficient and more economical.

The Nalco System can be applied selectively, or for complete water treatment protection in *your* mill. Write today for full details on your specific water treatment problems.

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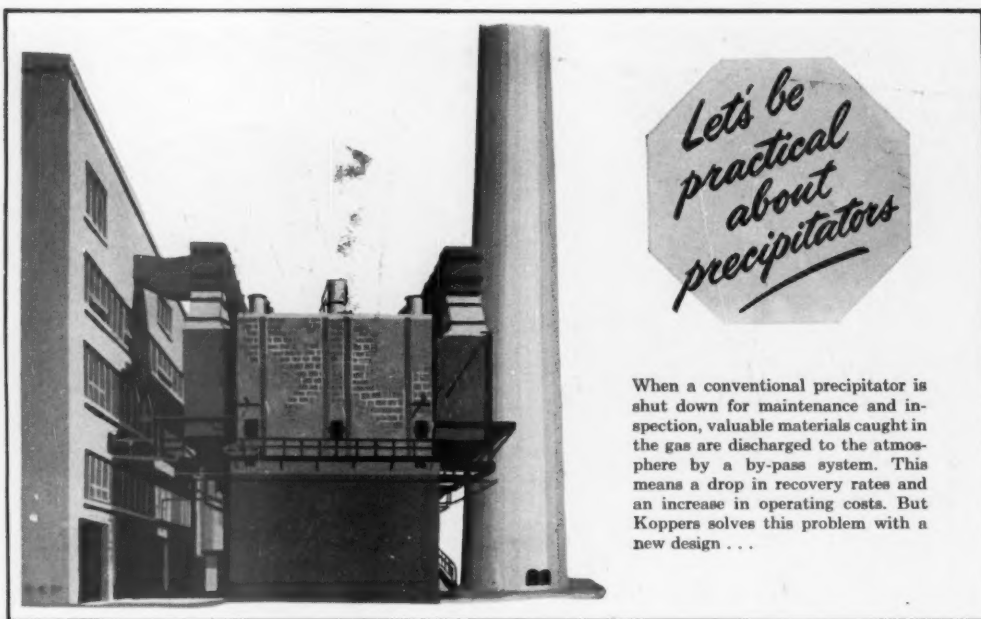
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THE

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SYSTEM • Serving the Paper Industry through Practical Applied Science



When a conventional precipitator is shut down for maintenance and inspection, valuable materials caught in the gas are discharged to the atmosphere by a by-pass system. This means a drop in recovery rates and an increase in operating costs. But Koppers solves this problem with a new design . . .

Koppers-Elex electrostatic precipitators assure maximum recovery with an efficient double-chamber design!

KOPPERS-ELEX electrostatic precipitators save you money two ways on recovery boiler applications. The first way is with maximum recovery. Successive collection zones can be separately energized which means higher voltages can be applied—with an increase in efficiency as a result.

PERFORMANCE GUARANTEED!

Koppers engineers protect your investment in an electrostatic precipitator by guaranteeing both the recovery or gas-cleaning efficiency and the residual content left in the gas after cleaning. Koppers-Elex electrostatic precipitators are designed, engineered, fabricated, erected and guaranteed under one contract by Koppers Company, Inc.



The second method is with Koppers double-chamber design. Instead of conventional by-pass systems, the dirty gas can be diverted through a single chamber while the other is shut down for inspection and maintenance. This means recovery continues with only a slight decrease in efficiency. As a result operating costs go down and recovery rates stay up.

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IF YOU HAVE A GAS-CLEANING PROBLEM, write today and outline the details for us to review. There is no obligation. Just address your letter to: KOPPERS COMPANY, INC., *Precipitator Department*, 242 Scott Street, Baltimore 3, Maryland.

Koppers-Elex **ELECTROSTATIC PRECIPITATORS**

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PRECISION BUILT FIELD PROVEN PUMPS

Pulp-Hog

A stock pump that
will not become

Airbound

The Bingham "PULP-HOG" can be mounted on the side wall of Deckers, Washers, and Thickeners and take stock directly from the Doctor Blade without becoming airbound or clogged. The unique design of this pump enables the "PULP-HOG" to receive stock, separate out, and expel the entrained air and deliver at a constant rate into the mill system—no flow interruption.

Bingham "PULP-HOGS" are being used effectively in the Pulp and Paper industry for handling air entrained pulp from Stock Flow Meters, Consistency Regulators, Save-Alls, Pulp Refiners, Knotters, Beaters, Washers, Deckers, and Thickeners.

Bingham "Pulp Hogs," like all Bingham products, are precision built in our new and modern plant. All rotating parts are dynamically balanced. All parts requiring close tolerances are ground on heavy duty precision grinders. Each part is subjected to rigid inspection by craftsmen who for years have been trained to follow Bingham's high standards of manufacture.



A battery of Bingham "Pulp-Hogs" taking stock directly from Doctor Blade of Stock Thickeners at Pacific Paperboard Mill, Longview, Washington.



Section of inspection department in our new modern plant.

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for Pulp-Hog Folder 26

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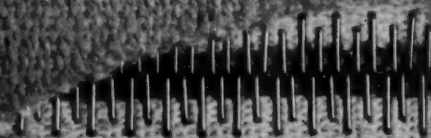
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Pure NYLON stitched—No Staples



Our "STAGGERED BUTT" Clipper Seam requires no flap. Felt joint is set slightly back of the clipper hooks to form its own flap over the clipper seam. (Shown in cut-away section.)

Pure Nylon is used for stitching clipper tabs to the felt. No staples to rust or break, or burn the felt threads.

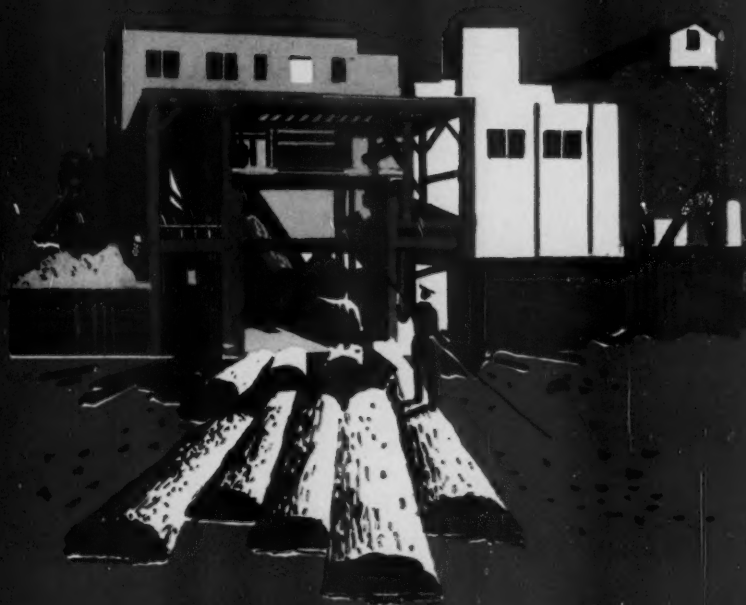
*Try this IMPROVED clipper seam—now available
on all Brandon Felts—Cotton or Asbestos.*

Morey Paper Mill Supply Co.

309 SOUTH ST., FITCHBURG, MASSACHUSETTS

Sole Distributors of Dryer Felts Manufactured by

The Abney Mills, BRANDON Dryer Felt Mill
GREENVILLE, SOUTH CAROLINA



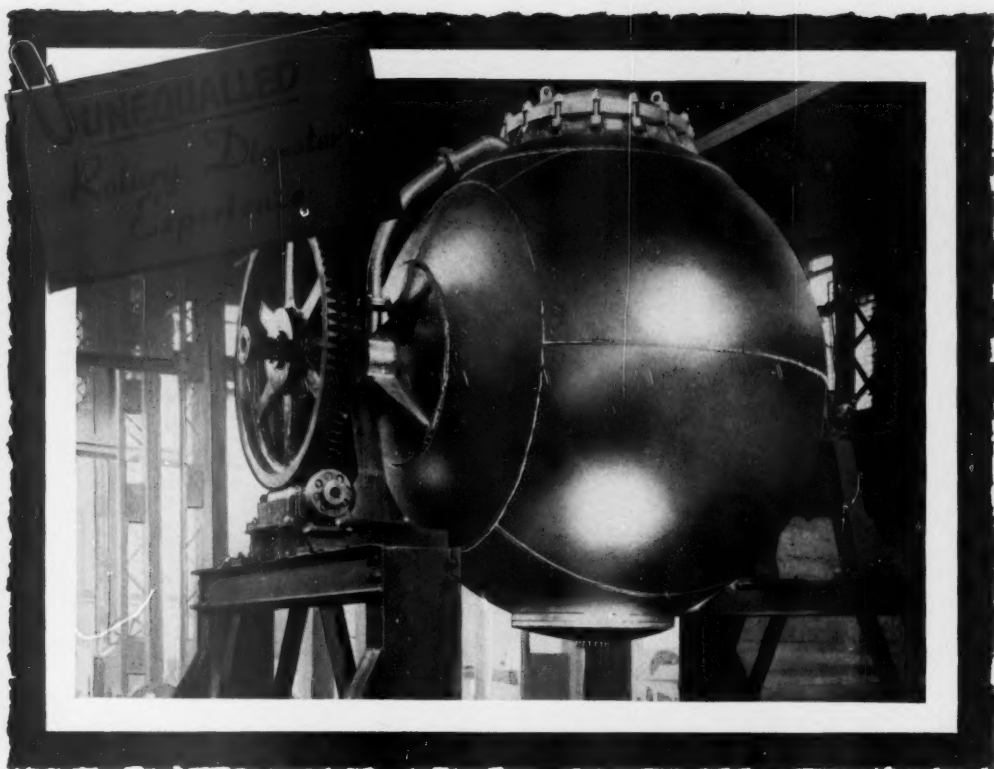
WHITER, CLEANER PULP

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PUGET SOUND

PULP AND TIMBER COMPANY

BELLINGHAM • WASHINGTON



Biggs pressure vessels meet all paper industries requirements

THE trend to the semi-chemical pulping process is based on long term experience. Pulp mills have discovered that when the semi-chemical method is used, in conjunction with a globe rotary digester, lower cooking pressures will do the job in shorter cooking cycles. This is an important two-way savings.

They have found, too, that less equipment is required. In fact, costly liquor recovery systems are eliminated. The spent liquors can be used for unbleached stock, and because waste is held to a minimum, stream pollution is substantially reduced.

Biggs pioneered the Globe Rotary Digester. Since early in their existence — which began in 1887 — Biggs has worked with the Pulp and Paper Industry in designing and manufacturing equipment that will

produce better papers at less cost.

For more information regarding the latest in digester equipment, or for engineering data contact The Biggs Boiler Works Co., 1015 Bank Street, Akron, Ohio.

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The sword of **CAESAR'S LEGIONS**

**Strong blades that won
an empire**



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The Romans improved their knowledge of metallurgy from the nations they conquered. Roman swords were forged to the most exacting specifications of their time. They represented the best in efficiency and durability.

famous blades

Heppenstall **CHIPPER KNIVES**

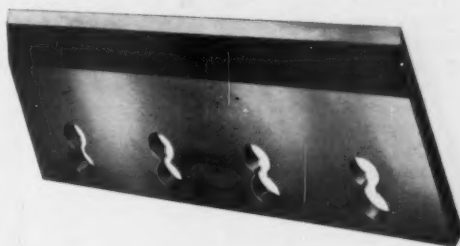
**Strong blades that build
chip production**

Like the blades of ancient Rome, the modern Chipper Knives made by Heppenstall are continually improved through technical development.

Users of Heppenstall Chipper Knives obtain exceptional service as represented by the following advantages:

- MORE HOURS BETWEEN GRINDS
- LESS SAWDUST WASTE
- LESS OVERSIZE CHIPS
- LOWER OVERALL BLADE COST

Your chipper operations can also benefit through Heppenstall Chipper Knives. Make them your standard specification for increased efficiency and lower overall costs—today.



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the most dependable name in forgings

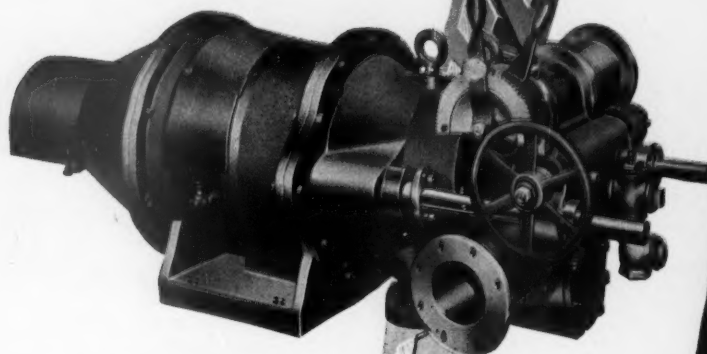
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The "Stock-Maker" combines the best time-proven principles of beating and refining into one compact, versatile and rugged unit, using...

1. 360° of bed plate shell (floating mounted for uniform pressure on all bars) surrounding a beater-roll type of rotor for the most efficient treatment.
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3. Optional internal blending or recirculation of a portion of the fibers for varying the individual fiber treatment on grades where this is advantageous.

The simplicity, efficiency and advantages of these and other distinctive "Stock-Maker" features are proven by years of mill experience with hundreds of "Stock-Maker" installations on all types of pulps and grades of paper.

*May we assist you with your beating and refining?
Let us know your requirements.*



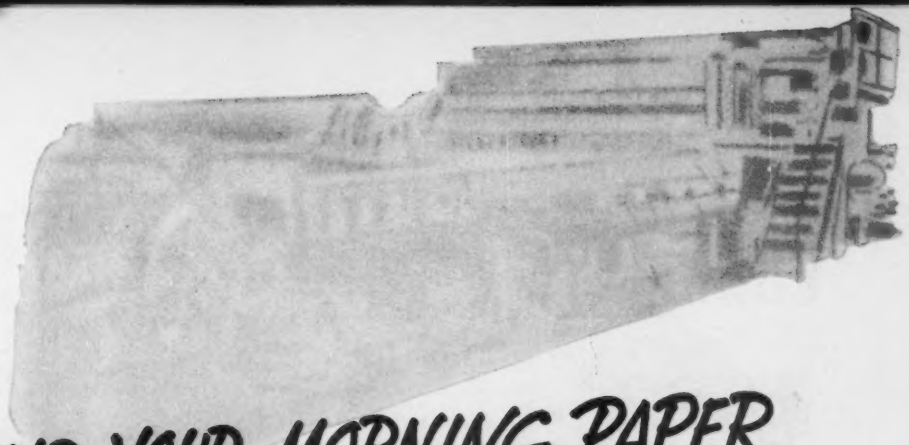
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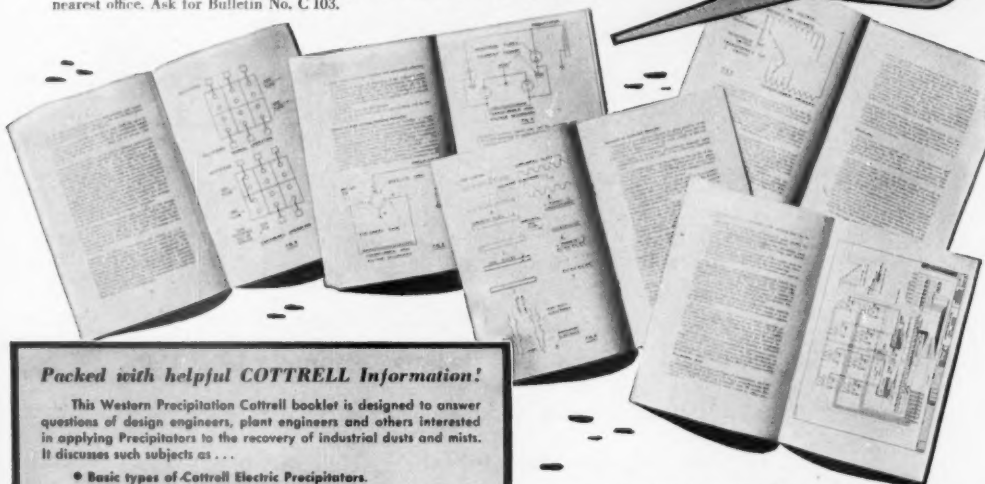
From Western Precipitation—the organization that pioneered the commercial application of Cottrell Precipitation...

IF YOU ARE ENGAGED in any phase of industry where the recovery of dusts, fumes, fly ash, mists, fogs or other suspensions from gases is a problem, you will find this booklet on the COTTRELL Electrical Precipitator helpful and informative.

Western Precipitation pioneered and installed the first commercial application of the well-known COTTRELL Electric Precipitator—Dr. Cottrell, the inventor, being a member of the company. And for more than 42 years Western Precipitation has consistently led in developing new COTTRELL advancements and techniques for recovering suspensions from gases, both wet and dry.

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28 PAGES
of helpful facts to
know about
COTTRELL
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Packed with helpful COTTRELL Information!

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- Principal parts of a Cottrell Precipitator.
- Mechanical and Electronic Rectifiers.
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- Removal of Collected Material.
- Factors in Shell Construction (steel, concrete, brick, etc.).
- Operating Efficiencies and the Effect of Various Factors on Performance.

... and many other basic Cottrell facts. Write for your free copy of Bulletin C103 today while supplies are adequate!

Western Precipitation is not affiliated with any other company in the field of electrical precipitation except its wholly owned subsidiaries, International Precipitation Corporation and the Precipitation Company of Canada, Ltd. Whether you are now contemplating the installation of a Cottrell Electrical Precipitator, or may be interested in such an installation at a future date, we can and will serve you in any part of the United States or other countries.

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PULP & PAPER

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and abrasion

Here's a brand new catalog containing detailed information on stainless and high alloy equipment that will help you overcome the problems of corrosion, heat and abrasion in your mill.

In addition to an explanation of the different types of corrosion and recommended analyses for meeting the various corrosion problems, the catalog includes data on the following:

- Heat resistant castings
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- Corrosion resistant valves
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- Wrought stainless pipe, tubing, light wall fittings
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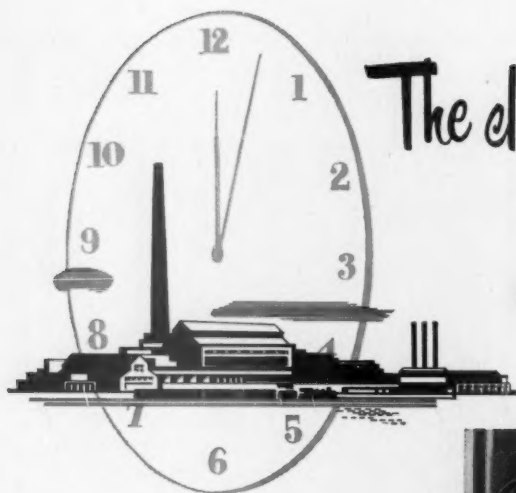
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The clock never stops on this

DE LAVAL GEARED TURBINE

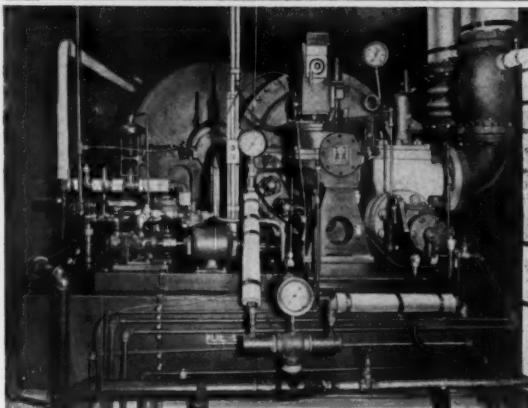
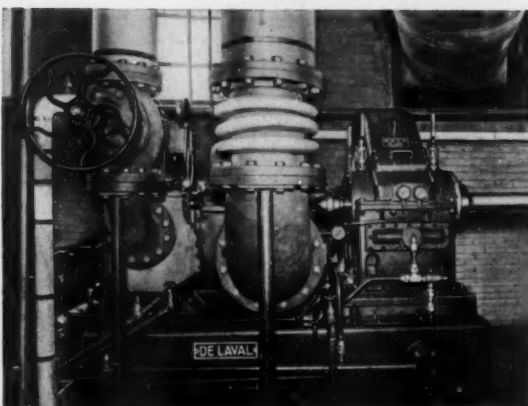
AT FINCH, PRUYN

Round-the-clock papermaking requires peak turbine dependability. That's why Finch, Pruyn selected this 400 hp geared De Laval multistage turbine to drive their new 122-inch Pusey and Jones Fourdrinier machine.

With a maximum speed change of 7.5 to 1, this De Laval turbine provides a wide range variable speed drive. It offers a maximum capacity rating of 525 bhp at 4945 rpm with a gear reduction to 480 rpm. Minimum operating turbine speeds go as low as 659 rpm geared to 64 rpm.

Anticipated future operation of this paper machine at 1200 feet per minute will utilize the turbine's top speeds. Currently the machine is producing at the rate of 1,000 feet per minute, requiring 375 hp at 4130 rpm geared to 400 rpm.

De Laval engineers are old hands at making turbines that stay on the job year after year. Investigate the De Laval line now. Best way to start is with Bulletin 4200-A. Write for your copy today.



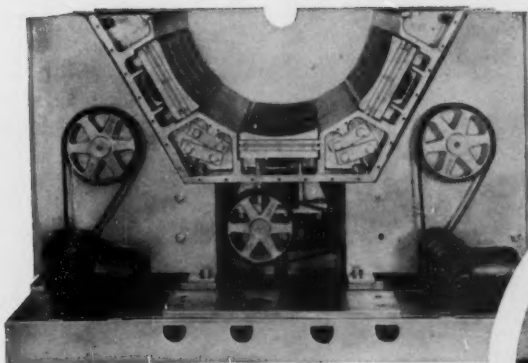
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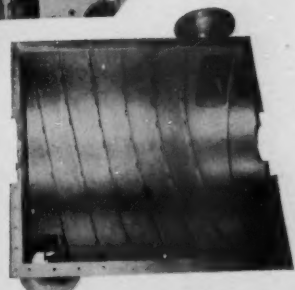
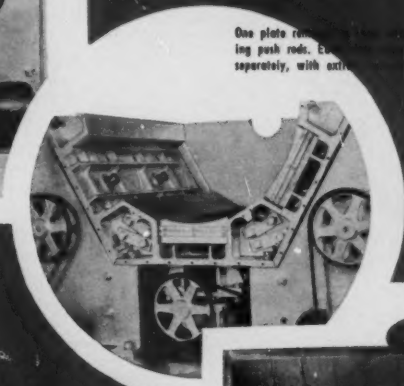
Steam Turbines

DE LAVAL STEAM TURBINE COMPANY, TRENTON 2, NEW JERSEY

DL-115



One plate running in each direction push rods. Each plate is adjusted separately, with extra



Showing guide vanes in head to

THE *Flexibility* OF THE NEW **MIDWEST-SMITH BEATER**

So flexible is the new Midwest-Smith automatic continuous beater that it will condition a fiber for high density and finish, or for extreme porosity. In other words, the maximum desired mullen, tensile and tear of which the fiber is capable, will be obtained. This is readily apparent once the radically different design features of the Midwest-Smith are understood.

The stock enters on one side under pressure and after a 1 to 3 minute beating cycle discharges on the opposite side. The stock does not immediately spread across the entire face of the roll and bed plates as might be expected. Instead, its path of travel is controlled by spirally positioned vanes in the hood and some eight separate and distinct trips between the roll and bed plates take place as the stock gradually moves from the inlet side to the discharge side.

Each of the three bed plates is separately adjustable to the roll—the hydrating and brushing area is four to eight times that of a disc or conical refiner or

Jordan, and the desired treatment is definitely predetermined and controlled.

Mills running Kraft or semi-chemical pulps—all mills, in fact, should be very much interested in its economy of operation. There is no stock circulation by the roll and there is no bar to bar contact between roll and plates. Consequently, the motor required to drive an average size Jordan will drive a Midwest-Smith.

The absence of bar to bar contact means almost indefinite service from one set of roll bars or one set of bed plates. This is in itself a major economy.

Capacity 50 to 100 tons, depending on kind of fiber used, freeness desired and tonnage required.

Shipped assembled ready to pipe up, except for drive.

Complete information on request

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SMITH
BEATER**

THE MIDWEST-FULTON MACHINE CO.
DAYTON 3, OHIO

POWELL RIVER

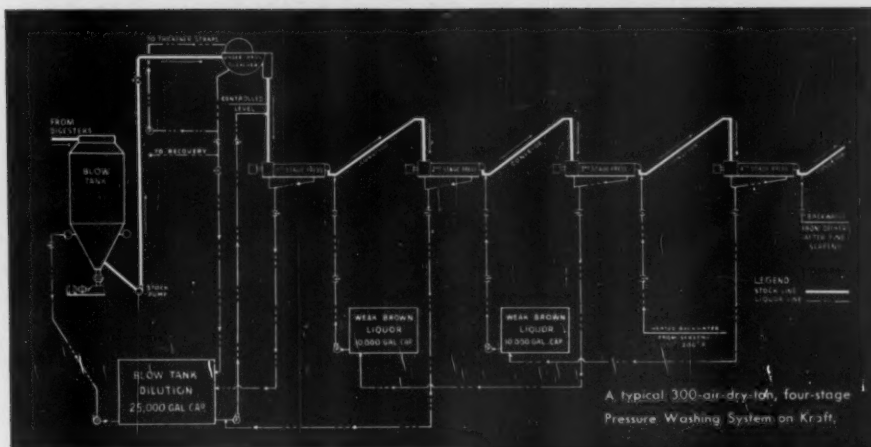
UNBLEACHED
SULPHITE PULP



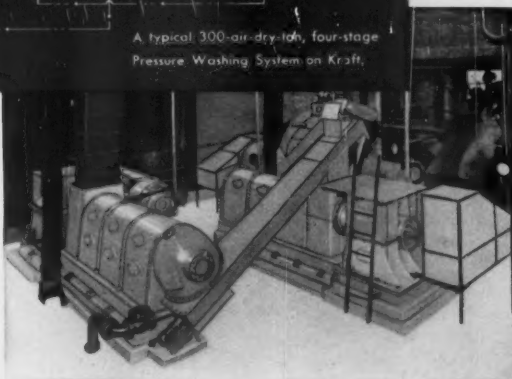
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COLOR
SERVICE
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SUPPLY

**POWELL RIVER
SALES COMPANY
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— 404 STANDARD BUILDING, VANCOUVER, B. C. —



A major advance in pulp mill technology



It took a good many years and a lot of hard thinking to develop the Pressure Washing System, but the men who've seen it work agree that the results are well worth the effort. Pulps that are washed this new way are not only clean enough to meet any specifications, but are definitely stronger as a result of the intense rubbing action and pressure they undergo. Also, Pressure Washing offers possibilities of reducing evaporator costs and stream pollution that cannot be equaled.

Low water consumption . . . less than 200 g.p.m. for a 300-ton system.

No foaming . . . air is completely excluded from system. No showers, foam-breakers, over-size transfer and settling tanks are needed.

One-man operation . . . entire system is controlled by one man from a single switchboard.

Saves space . . . all units are small and compact and can be arranged in many ways to conserve space.

Low maintenance . . . facing on compression elements has a probable life of at least 100,000 tons and is easily renewable.

Saves power . . . actual horsepower consumed by a typical system is only 1.36 per air-dry ton.

Systems can be furnished in two, three, and four stages to fit individual mill requirements.



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complete information
today.*

Designed & Engineered by **SUTHERLAND, Inc.** patent pending Sales & Service **SUTHERLAND REFINER CORP.**
Trenton 8, N. J.

Manufactured by VALLEY IRON WORKS CO., Appleton, Wisconsin

Interesting Facts about Paper

The word "stationery" comes down from the Middle Ages when most people were unable to read and write. Monks set up *stations* in churchyards where they wrote and read for their parishioners. In time, paper and other things were sold, and when this became a trade its practitioners were known as "stationers." England's copyright office is still known as "Stationers Hall."



interesting facts about QUINOZOL BLUE BP DUSTLESS

Quinozol Blue BP Dustless is a bright Acid Blue possessing excellent solubility, light fastness and level dyeing properties. It is the blue which is most extensively used in the production of blues and greens for bond and cover stock where a minimum of two-sidedness and good light fastness is desired.

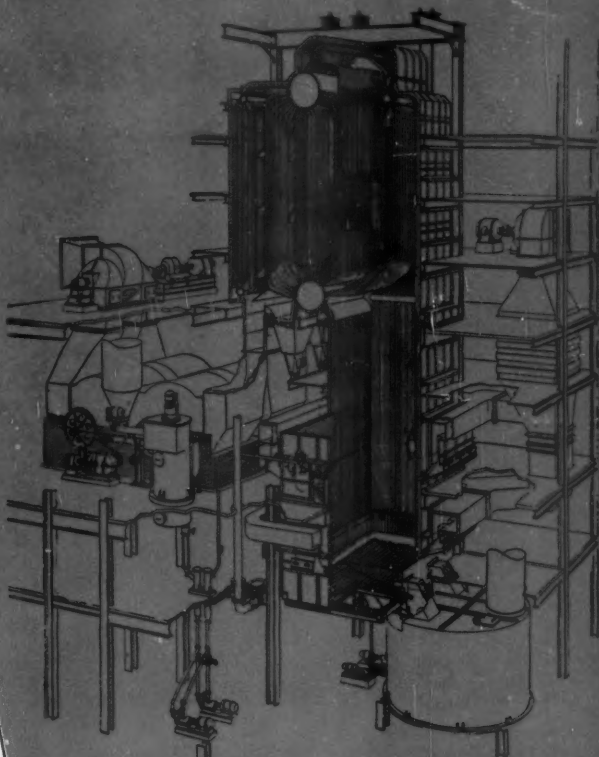


AMERICAN *Cyanamid* COMPANY

CALCO CHEMICAL DIVISION
DYESTUFF DEPARTMENT
BOUND BROOK, NEW JERSEY

New York • Chicago • Boston • Philadelphia • Charlotte • Providence

**2675
tons of
C-E
Recovery
Unit
Capacity
ordered
in 1951**



- *Gaylord Container Corp.
Bogalusa, La.
- *Longview Fibre Co.
Longview, Wash.
- *H. R. MacMillan Export Co., Ltd.
Nanaimo, Vancouver, B. C.
- *Potlatch Forests Inc.
Lewiston, Idaho
- *St. Helens Pulp & Paper Co.
St. Helens, Oregon
- *St. Joe Paper Co.
Port St. Joe, Fla.
- *Union Bag & Paper Corp.
Savannah, Ga.
- United Paper Mills, Ltd.
Finland
- *Repeat orders

During 1951 the leading pulp and paper companies, listed opposite, selected C-E Recovery Units for expansion of existing facilities with an aggregate daily capacity of 2675 tons.

Six of the eight companies which ordered C-E Recovery Units in 1951 did so on the basis of past experience with this equipment.

B-548

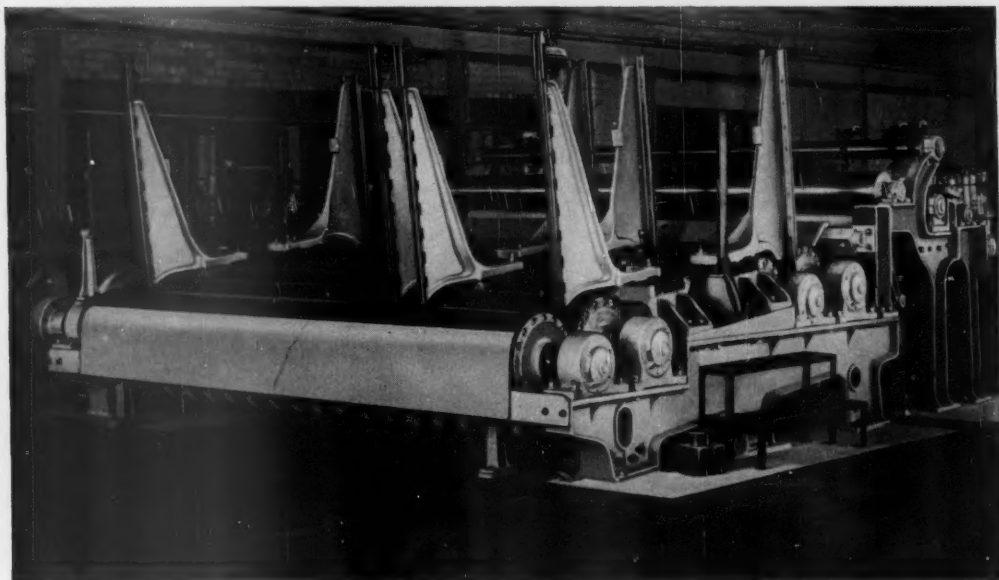


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SUPERHEATER, INC.**

200 Madison Ave. • New York 16, N. Y.

PRODUCTS FOR THE PAPER INDUSTRY INCLUDE RECOVERY UNITS, STEAM GENERATING, FUEL BURNING AND RELATED EQUIPMENT; ALSO PRESSURE VESSELS
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NEW MOORE & WHITE 4-DRUM WINDER



HERE is an expertly engineered and precision-built heavy-duty 4-drum board winder—fast, efficient and dependable to fit the tempo of today's demands and operations. It is operated by a Moore & White mechanical drive, and all moving parts run in anti-friction bearings. It is equipped with M & W shear-cut slitters to insure clean edges to the rolls.

This new Moore & White winder will wind rolls up to 84 inches in diameter. It is available in widths up to the maximum requirements of modern paperboard mills. We can equip it with automatic roll ejectors which permit the completed rolls to be quickly and easily removed from the winder drums without being tended or handled by an overhead crane.

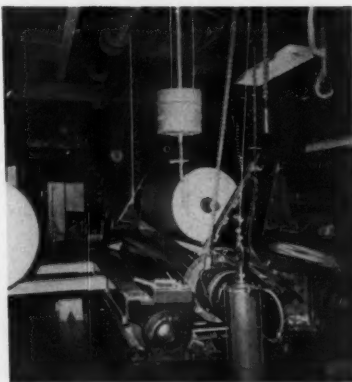
Write or call us today for more detailed information. Our sales engineers will make a prompt survey of your requirements and oversee the installation of the Moore & White winder or other equipment you need for faster, more trouble-free and more profitable operation.

The MOORE & WHITE Company

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Represented on the West Coast by Dan E. Charles Agency,
618 Jones Building, 1331 Third Avenue, Seattle 1, Wash.

Above—Moore & White 4-drum board winder equipped with Moore & White shear-cut slitters



Above—Moore & White 4-drum winder equipped with automatic roll ejectors

**CUSTOM-BUILT MACHINES
FOR MAKERS OF PAPER
AND PAPERBOARD**

PULP & PAPER

Get **CLEANER CUTS** ...and More of them with **SIMONDS** Paper-Cutting **KNIVES**



You can count on getting *extra* duty out of Simonds "Red Streak" Paper Knives, because you get these 4 unmatched advantages:

- 1: *Simonds Special S-301 Steel* means longest life for the cutting edge, and less frequent trips to the grinder.
- 2: *Uniform Accuracy of Edge and Thickness of Knife* from end to end gives you straighter, cleaner cuts.
- 3: *Correct Taper and Face Clearance* eliminates drag against stock and assures clean, shear cuts.

4: *Simonds Special "Mirror Finish"* gives you the same fast, smooth cutting for the entire life of the knife on any type of stock.

Order Simonds "Red Streak" Paper Knives from your nearest Simonds Distributor or printing supply house.



Factory Branches in Boston, Chicago, San Francisco
and Portland, Ore.
Canadian Factory in Montreal, Que.



For the PAPER INDUSTRY

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Cotton Rolls

Interleaved Rolls

Paper Rolls

Embossing Rolls

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Web Supercalenders

Friction Calenders

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Laboratory Calenders

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Rag Cutters

Paper Dampeners

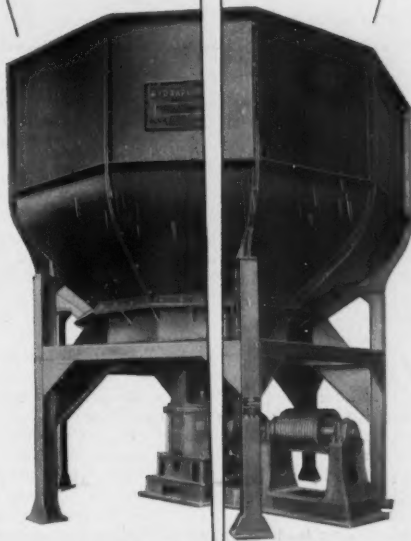
Tensile Testers

Mullen Testers

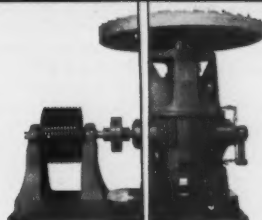
Hydraulic Power Units



Hydrapulper No. 1000 coming up



Several designs • Full range of sizes • Batch or continuous • Contact Shartle or Dilts



There is no mystery about the sales strength of a Hydrapulper.

In the first place everything acts and reacts in a vertical plane. (1) a firm base. (2) a heavy precision drive on that base. (3) a heavy, rugged rotor directly atop the drive. No side thrust. No stresses or strains—everything in a vertical plane.

In the second place, the stock travels not sidewise but downward toward the rotor—gravity pull.

In the third place, the top is open, except when pulping under steam pressure, permitting entire bales of waste papers or rolls of virgin pulp to bounce up and down on the rotor until pulped. No strain on rotor or tub that might force something to snap.

In the fourth place, a Hydrapulper is the fastest, most thorough, most economical of all pulpers and almost every mill in the world knows it.

SHARTLE BROTHERS MACHINE COMPANY, MIDDLETOWN, OHIO

DILTS MACHINE WORKS, Fulton, New York • Divisions of THE BLACK-CLAWSON CO., Hamilton, Ohio
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Looking Backward . . . Looking Forward

This is the *Silver Anniversary* issue of PULP & PAPER. The February 1927 issue was No. 1 of Vol. 1.

It was 25 years ago that a pulp and paper industry on the Pacific slope of the United States and Canada was just beginning a tremendous expansion. In a short time its pulp was going into beaters of virtually every paper mill in the United States which purchased pulp, and to many mills in the British Isles, Latin America and other countries.

Today, this source of supply for the paper mills of the world is more important than ever before. Wars have shown the irreplaceable importance of this market pulp industry to the defense of all America. This magazine, alone, even without any influential or official support in this industry, argued that fact long and loudly in its editorial pages, against a stubborn contrary opinion in the State Department and other high places in Washington—long before Hitler's submarines proved how right we were.

But today, with the ocean lanes open, this pulp has become of great importance in another respect—as a prime world commodity—with many nations looking to the forests of North America to succor them.

Although PULP & PAPER began as *Pacific Pulp & Paper Industry*, right from its very birth it had the national and international attention of this industry. This was natural. It was inevitable. For the magazine was both the offspring and the mirror of the new important world market pulp industry, an industry destined to have an impact upon every region of the globe where pulp and paper is made. There was considerable growth in South, too, in that period, but it converted nearly all its pulp and did not sell to paper mills.

Having its birth in the heart of an industry whose own leaders had their sights set for broad vistas and distant places, this magazine also set its sights high. From the very beginning, its readership embraced the top management men and the top production executives of the industry in all the paper producing areas of North America and abroad because the development on the Pacific Coast commanded their attention. In a very vital way, it served their own business.

Because of the conditions under which it was born, PULP & PAPER always recognized the important, long-term reasons for unity between the Canadian and United States industries. It had a Canadian editor from the thirties and a fully-staffed Canadian office since 1943. In 1944, New York and New Orleans offices were opened, but editorial interests had taken editors into those regions many times in earlier years. In that year Pacific was dropped from the magazine's name. The modernization and the growth of the industry had spread to many regions by then, and PULP & PAPER editors went wherever it was to be found—even into Mexico and Newfoundland.

Between No. 1 Vol. 1, with its 42 pages and cover, and the current issues of three times that size, PULP & PAPER's history is one of steady growth and worldwide readership. It has been an unbroken string of monthly issues with original, authoritative, constructive articles and topping off that first year, came the first Review Number, the 13th annual issue, a veritable treasure house of significant information every year since, up to, and including, the World Review of last year.

The words of the lead editorial of the Feb. 1927 issue serve as well today as they did 25 years ago, in expressing the policies of PULP & PAPER. These were:

"To promote the sound development of the pulp and paper industry. This journal will chronicle the news of the industry and act as a medium of exchange of technical and practical information. Its columns will be open to all who have constructive ideas to present for the advancement of the industry's best interests. We have no intention of booming the industry or in any way exaggerating its possibilities. . . . we are for the promotor of legitimate enterprise. We are against the mere exploiter. The policy of this Journal will be independent, with no preconceived theories to advance."

From a number of leaders in this industry PULP & PAPER has gathered forecasts of the future—for their own companies and for the industry in general. Some are statements especially addressed

to the readers of this magazine; others culled from new annual reports and annual reviews addressed to stockholders. They follow:

Reporting estimated sales of over \$120,000,000 for 1951 (not counting Soundview division pulp), the highest in the company's 72-year history, Raymond C. Mateer, executive vice president of Scott Paper Co. says: "In the absence of abnormal conditions in the supply of pulp or other materials vital to our operations, Scott Paper Co., through its traditional attention to quality products and sound distribution policy, expects to make reasonable sales gains in 1952."

D. Samuel Gottesman, president of Gottesman & Co., Inc., in a special statement to PULP & PAPER, says: "The momentum of the past two years as it applies to the pulp and paper industry appears far from spent. At its least, this fine record can be depended upon to withstand many of the possibilities arising from shortages in other industries, government controls and, of course, the unfinished business in the Far East. Pulp and paper is a growth industry and its potentialities are a basis for a considerable degree of optimism."

Said Anson B. Moody, vice president of Simpson Logging Co. and general manager of its Everett Pulp & Paper Division: "The Pacific Coast still buys a substantial amount of paper from other areas and it seems reasonable to expect that more and more of its paper will be provided by Pacific Coast mills. While the demand is less intense now than it had been, we do not foresee any development that would interrupt continuous operation."

Activity will continue at high levels during 1952, in the opinion of Ira D. Wallach, executive vice president of Eastern Corp. He says: "In our particular branch of the industry, which is sulfite writing papers and bleached sulfite pulp, we expect to continue to operate at capacity during 1952."

Roy K. Ferguson, president and chairman of St. Regis Paper Co., told PULP & PAPER: "During 1952, we expect to complete the major expansion program commenced last year, entailing an expenditure of some \$40,000,000. The new production puts the company in a fully-integrated position in kraft paper and board and is amply supported by pulpwood resources."

"In my opinion we are entering the greatest era of mass purchasing power we have ever seen," says Melvin H. Baker, chairman of the board of National Gypsum Co. Speaking specifically of 1952, Mr. Baker says his company is optimistic because its industrial business is expected to continue at its present high rate, and through the recently reorganized sales department greater emphasis will be placed upon this industrial and also export business.

One top executive in operations for a Southern pulp and paper company declined this magazine's invitation to make a forecast.

"Conditions appear so confused I do not care to make any statement of views regarding 1952 prospects."

Folke Becker, president of Rhinelander Paper Co., said: "The demand for glassine and greaseproof papers is still beyond our ability to supply (although No. 8 machine started up Nov. 21, 1951 and production has more than doubled in ten years). New uses for our paper are constantly being found . . . we are striving for the utmost in diversification. There are a number of fine fields for the sale of our products which we have scarcely touched because of lack of tonnage, but which we would invade vigorously to offset any decline." He said a semi-chemical aspen pulp plant leading to 40 tons more of bleached pulp daily is due by about September.

Marathon Corp. will make more bleached kraft pulp at Marathon, Ont., in the fiscal year ending Nov. 1, 1952 than in '50-'51 (which was 113,000 tons). Converting equipment is being installed in Oswego, N. Y., paper mill bought from St. Regis and, with new converting plant at Sunnyside, a Wash., will add to 1952 sales and earnings. D. C. Everest, president, said: "In food packaging, particularly in meat, due to new distribution methods, we have a great potential market. No business is less subject to violent fluctuations than food industry." He pointed out taxes took 18% of each sales dollar in last fiscal year (sales—\$91,552,950) compared to only 8% in previous (sales—\$68,269,814).

(Continued on page 96)

PUT IT THERE
if you want well knotted,
well screened pulp and
lots of it, at low cost
per ton

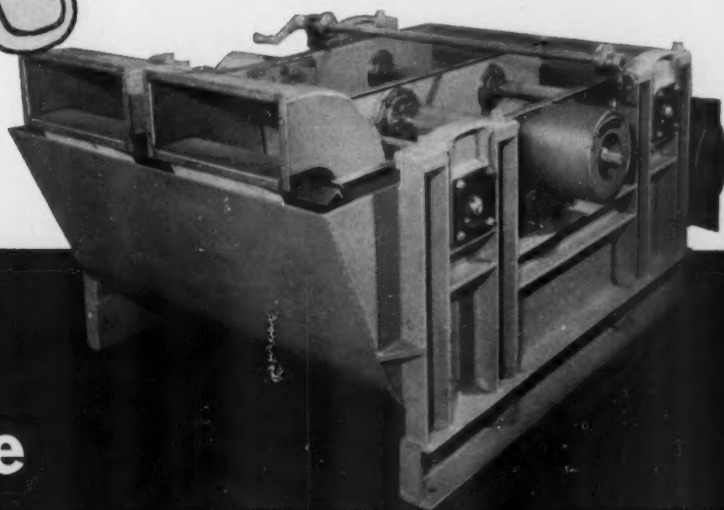
The Bird Jonsson Screen handles 80 to 100 tons of sulphite per day, 150 tons of groundwood and sulphate.

It handles sulphite up to 1½% consistency; sulphate and groundwood up to 2½%.

It only takes 3HP or less.

It takes up minimum space, costs little to install and maintain.

BIRD MACHINE COMPANY
South Walpole, Mass.



The **BIRD JONSSON SCREEN**

THE NEW LEE MILL

UNUSUAL FEATURES ON NEW MACHINE

One of the neatest and brightest appearing new machine rooms in this industry today is the new one at Lee Paper Co., Vicksburg, Kalamazoo County, Mich.

A prime reason for this pleasing appearance, as observed by a PULP & PAPER editor on a recent visit, is the fact that Lee now has one of the first two differential drive systems built to serve an entire paper machine. For that matter, there are several other new types of installations in the mill which catch the eye—and add to the pleasant effect. But these novel installations were not selected just to make the mill handsome—they also make for greater compactness, efficiency of operation, as well as better housekeeping.

The new No. 3 Fourdrinier machine built by Beloit Iron Works also is distinguished for being the first entire new machine designed for rag content bond, high grade sulfite and other fine papers to be installed in the U. S. in about 20 years. It has wire width of 130 inches, which makes it considerably wider than most machines producing these grades, and is designed for top speed of 450 f.p.m. Its daily average tonnage as this was written was about 40 tons. The other two Fourdrinier machines at Lee are 121 inches. (Their capacity—40 tons a day.)

All of the electrical equipment for the new expansion was furnished by General Electric during 1951 on a project basis—including a single motor paper machine drive, additional power house switchgear, many large and small motors and Cabinertrol for them, and an unusual drive for a Moore & White 132-in. four-drum winder. Another unusual GE installation at the Lee mill made in recent years is one of the very few Thy-Mo-Trol drives for a center wind winder which is credited with increasing paper production where used by 25 per cent.

The Differential Drive

Beloit engineering is responsible for the application of differential drive for the entire paper machine, and this novelty has a strong booster in George Wadleigh, a distinguished industry consulting engineer, who has written a short article especially for PULP & PAPER (for this issue following this article) telling of his experiences with differential drives on calendars years ago with West Virginia Pulp & Paper. He expresses an opinion that there is nothing offered for small machines of moderate speed that can beat it.

The differential drive is a long series of gear housing units behind the machine, equipped with Link-Belt PIV variable speed drive units, connected by a line shaft which is only 16 inches above the floor of the machine room. For safety and roominess, it is an impressive machine back side—gone are lower floor or overhead line shafts with pulleys and belts and pullers and the lower floor of the new mill is free for auxiliary equipment.

"This is the largest expansion in the 46-year history of our company," Maxwell D. Bardeen, president and general manager of Lee Paper Co., told PULP & PAPER. "This was the final step in improvements which began with rebuilding our power plant in 1946, expanding stock preparation in 1947, and expanding finishing capacity in 1948."

The new machine room abuts the old one, the new addition being two stories high, 216 ft. long and 114 ft. wide.



MAXWELL D. BARDEEN, President and Gen. Mgr. of Lee Paper Co., who described expansion as greatest in company's 46 year history.

Stock Preparation

New equipment ahead of the machine includes two E. D. Jones & Sons Pulp-Masters, one a large one-ton type, for purchased woodpulp; the other a half-ton type for difficult wet strength, map and blue print broke. Two E. D. Jones & Sons Bertram beaters prepare the rag stock.

Next step in refinement are the new Morden Stock-Makers. A Stock-Maker transfer pump was from Shurtle Bros. The Morden Stock-Maker—Two of them—are also used for refining on the other machines at Lee.

One Jones Imperial jordan follows the

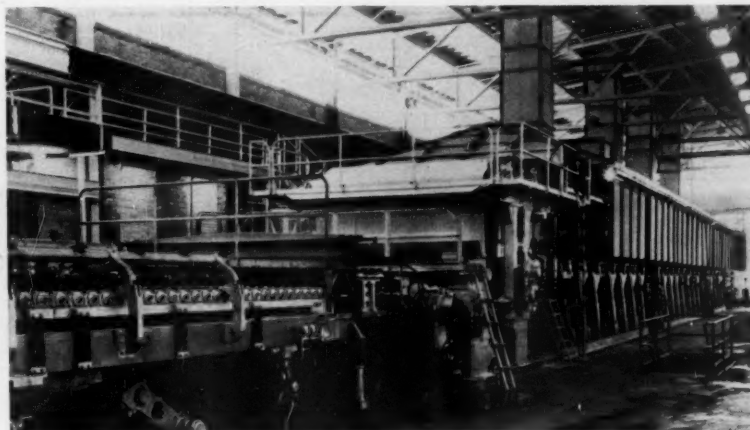
Mordens in serving No. 3. A DeLaval pump serves the jordan. There are six new Bird Machine primary Dirts and one Dirts for tailings. Bird also supplied a new saveall for recovery of fibers in white water.

Finally, two newly designed E. D. Jones & Sons No. 5 LW rotary drum screens in stainless vats. The screens appear to be higher than customary off the floor, and they are positioned and made in a manner for easy hosing out to keep clean.

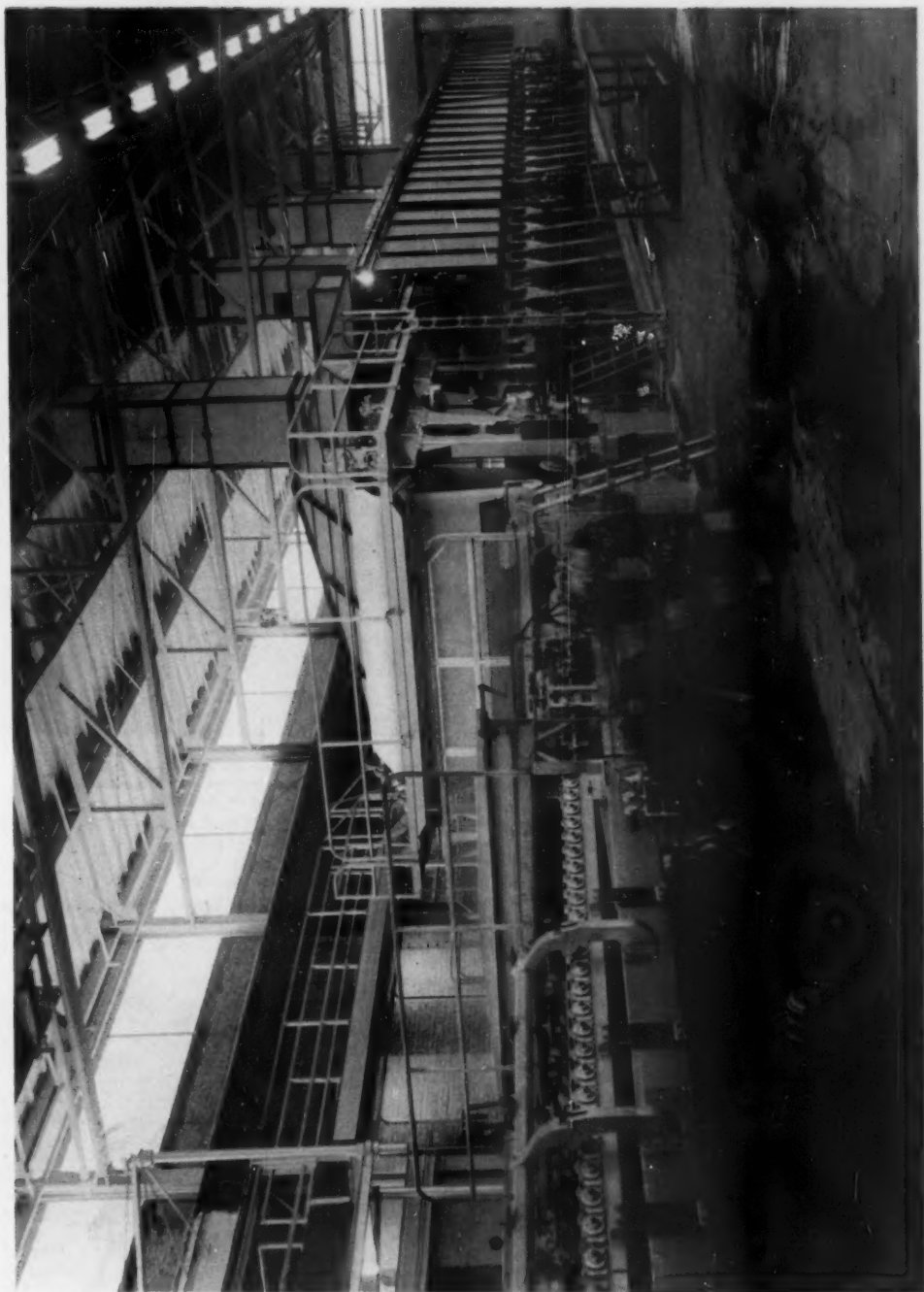
Stock from Pulp-Masters and Bertram beaters are blended in an oval-shaped Chemtile chest. Two variable pitch Jones cartridge type agitators mix stock before further refining in the Mordens. The big Pulp-Master has a Chemtile tank and stainless steel rotor and related parts and handles some broke as well as baled purchased woodpulp. The smaller Pulp-Master, used on more difficult broke as wet strength, map and blueprint, is unusual in that a cylinder washer surrounded by Chemtile vat is mounted on top of it. After a half-hour, wet strength broke is completely disintegrated and pumped through the washer to wash out chemicals and is ready for storage.

The Jones Screens are 36 in. diameter by 84 in. and have a double end discharge. Vibrating mechanism is in cast-iron base and capable of transferring 600 vibrations per minute to vibrating plate. This plate is semi-cylindrical and spaced from bottom half of rotating drum for maximum screening capacity. Ronningen Engineering Sales, which is also in Vicksburg, handling paper machinery lines in Lake States, provided two Ronningen filters Model 100 for oscillating showers on the screens.

Warren Steam Pump Co., Inc., supplied



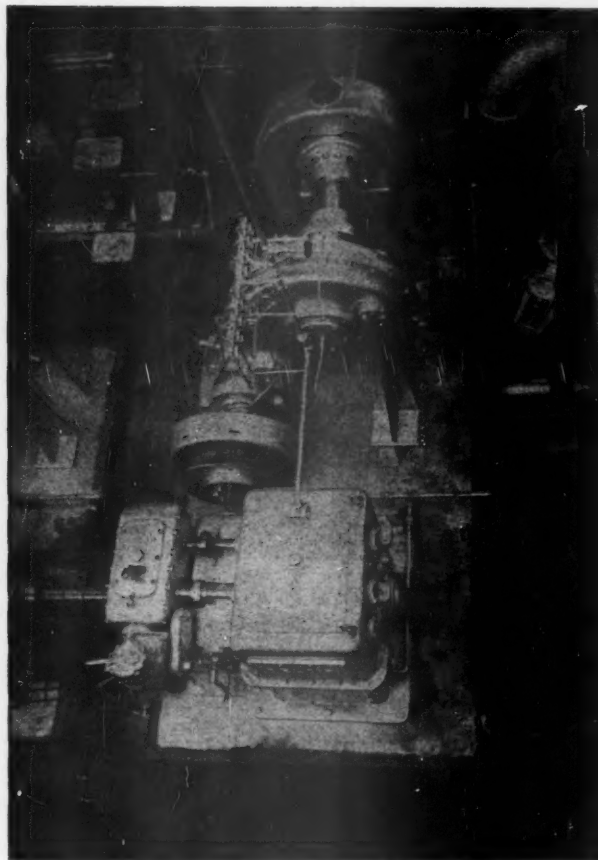
GENERAL VIEW OF NEW NO. 3 at Lee Paper Co., a Fourdrinier machine of 130 in. wire width built by Beloit Iron Works.



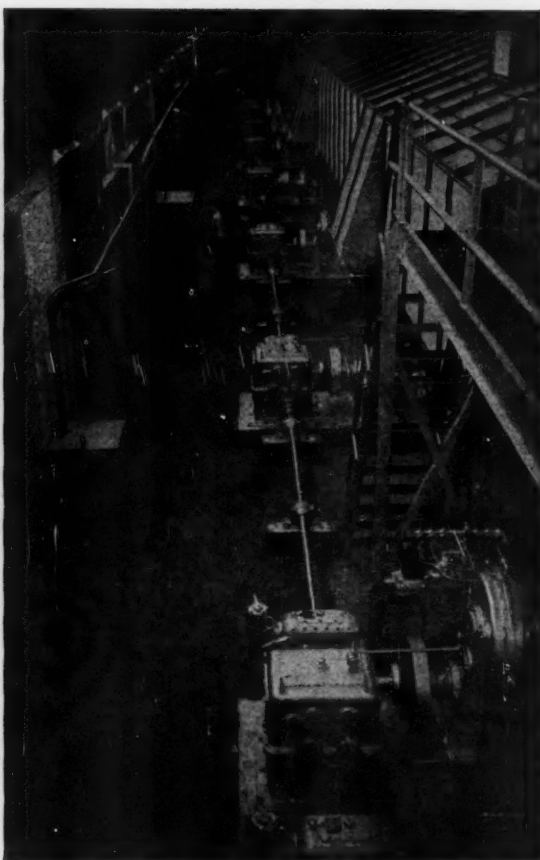
COLOR PHOTOGRAPH BY JOHN B. HOLYSEE

LEE PAPER COMPANY, Vicksburg, Michigan, recently started up its new 130' Beloit machine for the manufacture of high-grade rag-content bond and other fine papers. The first machine for production of this type to be installed in the U. S. in more than 20 years, it is already setting new standards for speed and quality. It was built by Beloit Iron Works at Beloit, Wisconsin.





CLOSEUP OF BELOIT-engineered new type of differential drive showing dependable LINK-BELT P.I.V. variable speed drive which is small unit on each of ten drives serving machine. Timken bearings are used.



GENERAL VIEW OF BACK SIDE of new Beloit machine at Lee Paper Co. Striking feature is very low above floor drive shaft. Belting and other hazardous features are eliminated. G.F. motors are in center portion of line shaft.

a new machine stuff pump. The fan pump is a Black-Clawson pump which the mill had on hand.

Description of Paper Machine

At the wet end of the machine, non-corrosive materials such as stainless steel, brass, rubber, etc., are used to protect all parts which might be subject to corrosion. The headbox is of special design and includes two driven rubber-covered rectifier rolls and a double adjustable slice. The Fourdrinier is of the latest Beloit cantilever type, to carry a wire 130 inches wide and 75 feet long. Fourdrinier beams, cantilever beams, cross ties and cross shafts are all clad in stainless steel. The stainless steel saveall is carried on the main beams and is not handled during a wire change.

Fully adjustable shake movement is supplied by a double unit Beloit Super Shake installation. Both units are driven by a constant speed alternating current motor, with speed of shake controlled by a variable speed pulley. The length of stroke of each unit is separately controlled, so that both the shake pattern and the total amount of shake motion may be varied as necessary.

All rolls in the Fourdrinier section are

fully equipped with anti-friction bearings, with water flingers or guards to protect bearings against water damage. The 20-inch breast roll and the 39 table rolls are carefully balanced to keep the wire running smoothly in the formation area.

The motor-driven dandy roll is 16 inches in diameter. A Broughton hydraulic oscillating shower keeps the dandy roll clean, improves water mark and cuts maintenance. It was supplied by Ronningen Engineering and a Ronnigen water filter, 220 mesh, quick coupling, non-shortcircuiting and all-welded Monel construction serves the shower.

There are six Beloit stainless steel lattice-type suction boxes, with end of grain maple covers. The 26-in. diameter Beloit suction couch roll has air loading to press the packing strips evenly across the inside of the centrifugally cast bronze shell. The hydraulic pump on the jack stand conveniently cantilevers the roll for a wire change, and a "safety insert" insures maintenance of the raised position.

The guide roll and three wire return rolls are brass-covered. A patented Beloit air guide at the front end of the guide roll, controlled by a small palm pressing lightly against the edge of the wire, guides the wire with minimum deflection.

Doctors are used on wire return rolls and on the breast roll.

The Press Section

The press section carries two plain presses (the second is a reverse press) with rolls mounted in heavy duty anti-friction bearings and designed for interchangeability.

The 23-inch top rolls have Stowe-Woodward Microrok covers, and the 24-inch bottom rolls are rubber-covered by Stowe-Woodward who covered 23 rolls in all for the new machine.

Air diaphragms are used in separate loading of each end of each roll, with all controls located conveniently at the front of the machine. Each press has oscillating Lodging doctors mounted on the top roll swing arms.

Vacuum pumps for the new machine were made by Nash Engineering.

Patented Beloit air guides are used for automatic guiding of the press felts. Felt rolls are rubber covered, and felt stretcher rolls are motor driven. A Bird Machine Co. Vickery felt conditioner is provided for the first press felt.

The Dryer Section

The dryer section, divided into three



RUBBER COVERED ROLLS



parts, includes 37 paper dryers and three felt dryers, all 4 ft. in diameter and built for 50 lbs. steam pressure. The first bottom dryer and three of the dryers in the third section are stainless steel-covered. A total of ten Bird Vickery dryer doctors are used, and those on dryers with stainless steel covers have micarta blades.

A continuous lubrication system serves the dryer sections. Felts are guided by automatic Beloit air guides. To thread the sheet through the dryer sections, a rope carrier system is provided.

The breaker stack between the first and second dryer sections uses a 23-in. Stowe-Woodward Microrok covered top roll and a 24-inch rubber-covered bottom roll. As in the case of the press section, air diaphragms are used in separate loading of front and back of the top roll.

The size press is loaded between the second and third dryer sections. The top roll is 20 inches in diameter and has an Ebonite cover. The bottom roll is a rubber covered 24 inch roll. Rolls are in heavy duty anti-friction bearings, and Beloit air diaphragm loading is used for each end of the top roll.

An eight roll Beloit calender stack follows the dryer section, with rolls in sizes from 12 inches to 24 inches in diameter. All rolls are equipped with doctors. From the calender stack, the sheet passes to a Beloit transfer type reel.

Air and Exhaust Systems

The paper machine dryer section and the auxiliary process equipment are equipped with J. O. Ross Engineering Corp. hoods and exhaust systems. The vertical exhaust stacks have telescopic sections which can be lifted by compressed air cylinders to permit crane passage. Hood design incorporates removable sections which can be lifted from the machine with no unbolting to give quick access for roll changes. The curtains at the front side of the hood are of sliding type to facilitate servicing of the dryers.

Two large Ross air make-up units in the basement provide heated air to main-

DEVELOPED AND STARTED UP NEW DRIVE



Here are five Beloit Iron Works men who figured prominently in development and start-up of the first differential drive units for an entire paper machine, described in this article on Lee Paper Co. Left to right, LLOYD HORNOSTEL, Vice Pres. in charge of Engineering, and E. D. BEACHLER, Chief Engineer, who directed development; PAUL O. PRINGLE and DON R. SIMONDS, who worked out installation details at Lee Mill and helped in start-up; and E. S. (Sterling) SKINNER, Asst. Chief Engineer, also on hand for start-up.



FOUR KEY EXECUTIVES at Lee Paper Co., Vicksburg, Mich. (left to right): RALPH ATKINS, Gen. Supt.; GORDON MOORE, Plant Engineer; LEO LEAS, Plant Maintenance Foreman, and R. L. MUSSEY, Chief Engineer in Charge of Power.

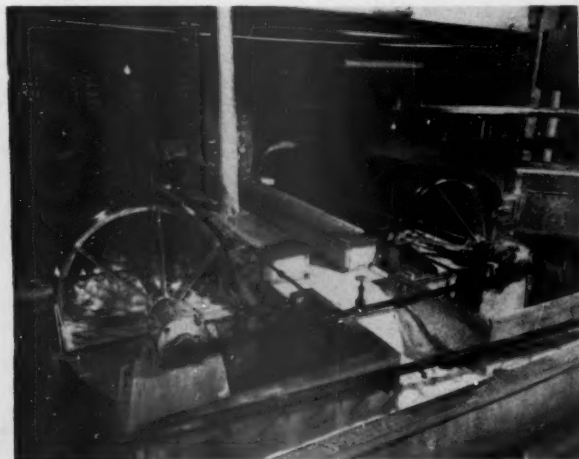
tain an air balance for the entire mill.

Differential Drive

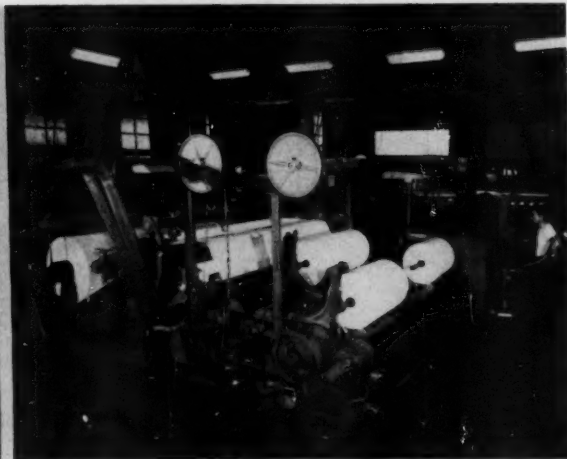
The Beloit differential drive, already mentioned, is a striking feature with low above-floor lineshaft. Separate spiral bevel units are used to transmit power to

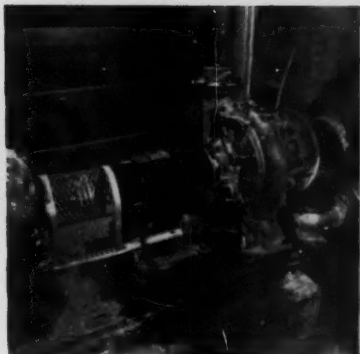
the suction couch roll, first press, second press, first dryer section, breaker stack, second dryer section, size press, third dryer section, calender stack and reel. Flexible couplings and multiple disc air operated clutches are used. The entire drive is coupled to a continuous lubrica-

E. D. JONES & SONS Rotary Drum Screens ahead of the new paper machine at Lee Paper Co. are in stainless vats, and higher above the floor than usually found.



ONE SIDE OF THE MOORE & WHITE 4-drum Rewinder which has a four-motor General Electric drive, instead of the customary one. Operator is ROBERT MUIR.

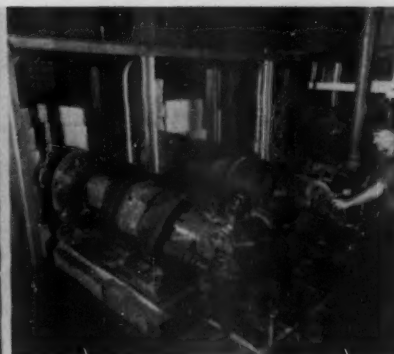




WARREN STEAM PUMP supplied this new machine stuff pump installed in new Lee Paper Co.'s plant.



NEW DELAVAL PUMP is shown serving Jones Imperial Jordan, which is chedd of Lee paper machine.



MORDEN STOCK-MAKERS for refining. There are four in mill. Nearby is **ARTHUR RIGGER**, Senior Engineer.

tion system. Maintenance and adjustment problems connected with belting have disappeared.

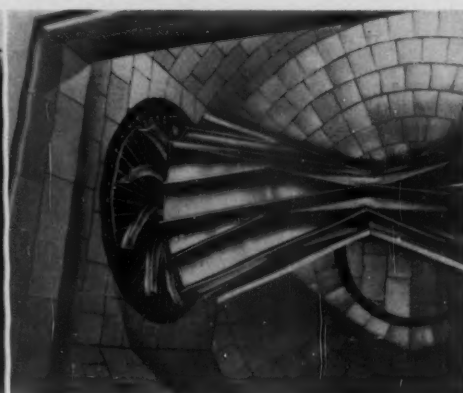
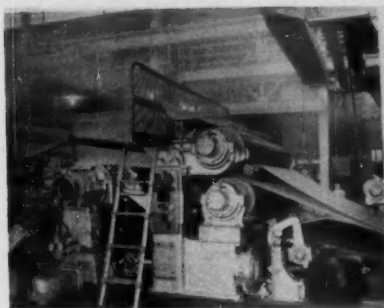
The differential drive gives prompt and accurate control of the draws between sections, from control panels conveniently located at the front of the machine. Each unit of the drive includes a dependable Link-Belt P.I.V. variable speed drive unit which transmits 10% or less of the power going through the unit as a whole. Timken bearings were used in the drive units and there is a General Electric motor in the center portion of the line shaft.

4-Motor Drive for Rewinder

The Moore & White 4-drum rewinder (this is the third Moore & White rewinder installed in the mill) is a type of equipment which is often driven either by a single motor, which drives the four rolls through a series of clutches and belt transmissions, or by two motors, each of which drives two rolls through clutches and belt transmissions.

General Electric recommended the installation of Lee Paper's 4-motor drive, together with a package speed variator power unit and a special operator's panel, with two objectives in mind. The first of these was the elimination of maintenance by doing away with clutches and transmissions. The second was the improvement in the ease of operation of the winder. Both of these objectives appear to have been realized. In addition, consid-

COUCH AND FIRST PRESS of new Lee Paper Co. machine. Motor-driven 16 in. dandy roll served by Broughton shower with Ronningen water filter.



EXTERIOR AND INTERIOR VIEWS of largest of two E. D. Jones & Sons Pulp-Masters included in new equipment at Lee Paper Co. This is a one-ton unit with Chemtile tank and stainless steel rotor. It breaks down purchased woodpulp and some broke. At right is inside of the Chemtile tank.

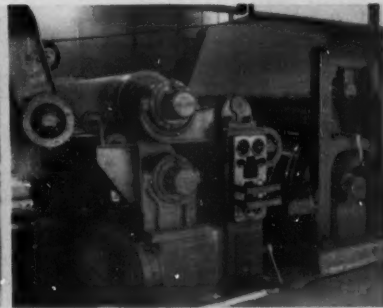
erable floor space has been saved because of the novel method of mounting the motors.

This mounting was designed and built by R. L. Hussey, chief engineer of Lee Paper Co., and other members of the mechanical maintenance staff of the Lee mill.

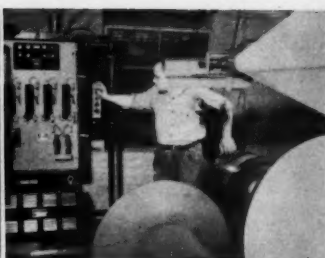
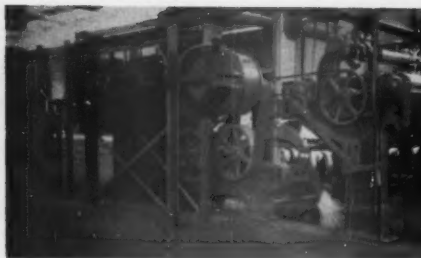
All four motors received their power from a single generator which is mounted in a speed variator power unit. Being duplicate motors, they run at essentially the

same speed. The individual roll speed can be adjusted over a small range by means of rheostats on the operator's panel to provide for draw between the rolls. Overall speed of the winder is adjusted by a fourth rheostat on the operator's panel. The motor generator set is started and stopped by pushbuttons on the panel, and is equipped with an oil circuit breaker to provide protection for the unit. The four motors are started and stopped simultaneously from the pushbuttons on the op-

PRESS SECTION OF NEW 130-in. Lee Machine. Top rolls with Microtek and lower rolls with rubber were covered by Stowe-Woodward. Doctors by Lodding.



BREAKER STACK is between first and second dryer sections of new Beloit machine at Lee Paper. Air diaphragms used in separate front and back loading.



AT LEFT, unusual 4-motor General Electric drive on Moore & White 4-drum rewinder. This is third Moore & White rewinder in Lee Paper Mill. At right—A General Electric Thy-mo-trol drive at Lee which has increased output of reel by 25%. For details on these new types of drives, see article.

erator's panel. The entire unit is braked electrically.

Thy-Mo-Trol Drive on Winder

In the introduction of this article we mentioned another interesting General Electric installation at Lee, though not in the new mill. This is a GE Thy-mo-trol drive which has increased the output of a winding reel from eight to at least ten paper rolls in an 8-hr. operation by automatic electronic control of tension and gradual speed reduction as rolls become larger. The electronic tubes have never been replaced since the installation over two years ago.

The electronic control with the Thy-mo-trol drive receives two signals which

tell the electronic brain unit what speed and torque are required from the driving motor to follow paper speed and maintain the desired tension. The first of these signals is one of speed and comes from a direct current tachometer generator which runs on a speed proportionate to the speed of the coating rolls. The second signal comes from a resistor in the armature circuit of the winder drive motor. This signal is proportionate to the amount of effect required from the motor to overcome bearing friction and maintain a constant tension on the sheet. Over the speed ranges involved, the frictions are rather small and essentially constant, and this signal tells the "brain" unit how to hold the constant tension required by the drive.

DIFFERENTIAL GEARS IN PAPER MILLS

By George Wadleigh

Consulting Engineer

In connection with the unusual drive for the Lee Paper Co.'s new machine, described in the preceding exclusive article, PULP & PAPER invited Mr. Wadleigh, a well known consulting engineer in this industry, to tell of his interesting experiences with this type of drive. The story follows:

The differential sectional drive for paper machines first came to the writer's attention about 1921. At that time the electrical sectional drive had not been developed, motor drive being confined to the variable speed shaft. For this service a squirrel cage motor drive at fixed speed drove a cone pulley, having a long face and driving a second cone by means of a belt 6, 8 or 10 inches wide. This provided a variable speed with a range of about 1 to 2. Belts used at this point were commonly rubber and rarely went to a width greater than 12 inches with perhaps 15 feet between centers.

From the variable speed shaft to the commonly used Marshall gear drive and clutch, a second pair of cones was used with a relatively short face, less angle and about 5 percent variation in speed either way. Belts used here ran 8 to 10 inches as maximum.

Much of the author's early experience was in textile mills where individual motor drives were few. The accepted mode of transmission was by means of a dis-



Mr. Wadleigh, the author, is a widely known engineer in this industry. He lives at Hastings-on-Hudson, N.Y.

tinctly efficient high grade leather belting and shafting. Cardinal principles in such a layout required that belt speeds be high, pulleys have a minimum crown, shafts be parallel and nothing contact the belts. Cone pulleys violated many of these precepts. Where variable speed was required in textile mills there was only a few horsepower needed so that cone pulley belts wider than 2 or 3 inches were a rarity.

In a paper machine section, power varying closely with the speed, it appeared illogical for the entire speed varying equipment to be built heavy enough for a 2 or 3 to 1 variation with attendant stretching of a wide belt over cones and side contacts, where the only speed change involved was approximately 5 percent. The differential gear, much used on textile machinery, permits several sources of

power to be brought together, each bearing its designed share of the load or speed, or for that matter, one source of power may be distributed as demanded, as for instance in the differential as used in the automobile drive.

With the above in mind, the writer sketched out a possible gear and submitted it to Mr. White, president of Moore & White Co., one of the leading builders of paper machine equipment at that time. Though Mr. White was somewhat skeptical as to the performance of the gear, he immediately agreed to make up such a differential from miscellaneous equipment he had on hand at the plant. To his delight, he found that the device functioned perfectly and it was not long after that that the president of the West Virginia Pulp & Paper Co., David Luke, Sr., agreed to an order for a commercial unit to be applied to one of the calendars at the then called Piedmont mill, now Luke (Maryland). The machine, it is believed, was No. 5, 138-inches with a speed of about 400 feet per minute. The unit went into operation and was entirely satisfactory for a year or more. Then some lubrication troubles developed—it had no antifriction bearings—and it was ultimately removed.

It probably had an 8-inch main drive belt from a flat pulley on variable speed main drive shaft to a similar pulley on the intake shaft of the gear unit. The variation device took its power from a cone pulley probably about 8 inches in diameter by 8 inch face mounted on the intake shaft. This drove a second similar 8 x 8 pulley by means of a 2 inch wide belt, perhaps 2 feet between centers. This latter pulley was mounted on the differential shaft.

Probably due to a new pulp mill, new power or a new paper machine being the immediate need of the West Virginia Pulp & Paper Co., further installations of the differential were not made until our engineer, M. T. Weston, improved the design in some particulars by using a variable speed D. C. motor to obtain the variations. Such a piece of equipment was installed on a calendar at the Mechanicville (N.Y.) mill. It may be that this is still in use; the writer does not know.

Some feature of the device Mr. Weston was able to patent and rights to it were sold to the Bird Machine Co. who it is believed use it on their continuous centrifugal.

Several years ago literature appeared advertising a small sized sectional drive with differential feature. This was handled by a firm in Syracuse and was called "Synco." Later a news item spoke of Moore & White taking over this device from Syracuse and preparing to market it.

It is difficult for the writer to see how anything the electrical people can offer for small machines of moderate speed can beat it. Perhaps this is because I am one who believes that the mechanical and hydraulic features of paper machinery have been sadly neglected. One reason for this is due largely to the fact that no single large organization, such as our electrical companies, have expended much energy in the development thereof.



**lowest
maintenance
cost!**

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OF THE VICTORY BEATER**

1. Controlled Flow — uniform, positive fibrillation
2. Pressurized bedplates
3. Absolute control up to 40 tons bedplate pressures
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12. All-time record for continuous production!

VICTORY BEATERS are made in two styles: (a) **Single Roll** units for handling batches as small as 500 pounds. (b) **Multi-Roll** units with two, three or more rolls for treating 100, 150, 200 or more tons per day on a continuous production basis.

Investigation of the versatile record-breaking VICTORY BEATER is a must! Write, wire or phone today for Booklet PP 252.



The low maintenance cost of the VICTORY BEATER* is due to its unique design, careful engineering and rugged construction.

For instance, the rolls are mounted on anti-friction roller bearings — the stock is fed to the rolls in a controlled, uniform volume — the hydraulic bedplates exert steady positive pressures against the rolls — the bedplate and roll bars are self-honing and may be replaced after long life without removing the roll from the beater.

These and other exclusive features that reduce wear and tear and increase efficiency, plus actual outstanding records of production, quality and volume, have set the VICTORY BEATER in a class by itself! *Patents issued and pending.

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NEW MACHINE FEATURES

First Fourdrinier for 9 Point In Many Years for Filer City

The first completely new Fourdrinier machine for making 9 point corrugating exclusively since World War II and for many years is under construction by The Black-Clawson Co. At a recent Michigan Superintendents meeting, Bruce W. Martin (shown in picture), manufacturing manager for American Box Board Co. of Grand Rapids, Mich., described several unusual features of this machine. It will be installed at the expanding semi-chemical hardwood pulp mill of American Box Board at Filer City, Mich., where William Schnorbach is resident manager. Mr. Martin mentioned these features:

It is to be a cantilever-type Fourdrinier. Stock will be delivered from a pressure inlet to a 110 foot wire. The two suction presses will have brass shells without rubber covers. The first section of dryers, consisting of six cylinders, will be operated without felts. There will be 52 main dryers—operated at steam pressures up to 100 p.s.i. Sixteen felt dryers will keep the dryer felts in good operating condition. The machine will operate at a speed of 900 f.p.m., and gradually will be speeded up to 1500.—A high speed winder will complete the installation.

Mr. Martin further related that the pulp mill is to be modernized; that two hydraulic barkers have been added; that continuously-operating digesters will be installed; and that washers of the screw press type will insure cleanliness of product and simultaneously will reduce the quantity of pulp mill waste water to the lowest possible volume.

Other Not-So-New Machines



William Race (above left), president of Sutherland Paper Co., and Frank H. Stowitts (right), manufacturing v.p. at Michigan Carton Co., also discussed their machines—new in recent years. Another speaker was Maxwell Bardeen, president of Lee Paper and the story of its new machine is described and pictured in an exclusive article on page 34. A Beloit cantilever-type Fourdrinier capable of producing fine writing, printing and reproduction papers at speeds up to 500 f.p.m., it has a General Electric drive of fundamentally new design.

Sutherland's relatively new machine, said Mr. Race, is a Black-Clawson eight cylinder machine, equipped with 113 dryers, that is capable of producing paper-board at speeds up to 400 f.p.m. It is supplied from a new continuously-operating stock preparation system, and a new automatic layboy has been added.

Mr. Stowitts said the big board machine, the "Angel," at his mill makes up to 224 tons a day, averages 190 (complete story in PULP & PAPER, July, 1949 issue, page 40).



Detroit Mill's Machine



Another speaker at the unusual Kalamazoo meeting of the Superintendents was George N. Carleton (shown in picture), who as the president of Detroit Sulphite Pulp & Paper Co., heads up an operation with a woodyard, pulp mill and paper mill right in the heart of one

of the biggest cities in the world.

He told of his company's new Beloit combination Yankee Fourdrinier machine designed for speeds up to 1800 f.p.m. It is running presently at 1300 to 1400 f.p.m., making lightweight uncreped tissues for wrapping and converting. It has a pressure stock inlet.

2 MILLS GO TO AMMONIA

While Crown Zellerbach's Lebanon, Ore., mill starts to go over entirely to ammonia-base pulping, it was confirmed that another Pacific Coast mill is also making plans to substitute ammonia for lime in its sulfite mills within a few months.

With a two year pilot plant experiment satisfactorily concluded, plant scale installations have been authorized for evaporating and burning ammonia-base spent sulfite. The experiments and the new facilities will cost about \$500,000, and will be largely non-productive except for steam produced and some sulfur recovery, company officials decided to go ahead. The project is expected to substantially improve the Santiam River.

A new separate concrete and steel plant for ammonia sulfite liquor evaporation and burning will be built, as the operation moves from pilot to plant scale.

A Rosenblad patent Conkey Plate switching type of evaporator unit, made by General American Transportation Corp., will be installed, somewhat larger than the original similar Rosenblad pilot plant unit. Thus there will be a two-effect evaporation installation sufficient to handle the process for 50 tons or more a day of sulfite pulp (capacity of the mill). In this type of evaporator, liquor is used in one channel for a set period of probably

McDonald is President; Heuer Also Joins G.N.

Manuel C. McDonald, formerly president of Chesapeake Corp. of Virginia, has been elected to the presidency of Great Northern Paper Co., succeeding William O. McKay, who became executive committee chairman. Elis Olson became president of Chesapeake.

Another Great Northern change finds J. Harlan Heuer taking over the position of superintendent of the Bureau of Tests at the company's Millinocket, Me., plant.

Mr. McDonald had gone to the West Point, Va., mill only a few years ago from Brown Paper Mills Inc. of West Monroe, where he had been vice president and general manager, and he has had a distinguished career in the Southern kraft industry. With Great Northern, whose main offices are in Boston, he heads one of Maine's biggest industries with three mills, and a major newsprint producer.

Mr. Heuer, was recently technical director and assistant to the president at APW Products, Albany, N. Y., and prior to that held high technical posts with St. Regis Paper Co. at Kalamazoo, Mich., and Deferiet, N. Y. He is son of the late Robert Heuer, superintendent in Washington state.

New Beloit Machine

Westminster Paper Co.'s \$2,000,000 expansion program at New Westminster, B. C., initiated more than a year ago, will be completed by the end of this year, according to President E. M. Herb. Installation of a new Beloit paper machine and converting equipment is a feature of the program.

8 hrs., steam in the other, and channels are then switched. The condensate dissolves all encrusting materials, and therefore it is designed to serve as a self-cleaning evaporator.

GATX also is supplying a condenser.

The pilot plant operated on 10% of the mill's digester capacity. Wood was cooked by ammonia and sulfur instead of by lime and sulfur. It was necessary to patiently test ammonia cooking results on pulp from various species of western woods. Later it was necessary to carry on laboratory, mill and customer tests on the paper made. These trials proved satisfactory, even getting a slightly better yield from the wood.

Formerly a partner in the pilot plant, Soundview Pulp Co., now bought by Scott Paper Co., will no longer be connected with the evaporating and burning operation. Crown Zellerbach will go it alone. A permanent installation will require new cooling tower, increased tank and handling facilities, rebuilding of a furnace and boiler, and stainless steel pipes, valves, pumps, etc.

The other mill on the Pacific Coast which will use ammonia in place of lime is not the Soundview Division of Scott, but it was not ready for formal announcement.

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American institution to television, Mr. Henry H. Reichhold, Chairman of Reichhold Chemicals, Inc., hopes to add the sense of real participation through actual viewing to the many qualities which have made the program so important a part of the American scene.

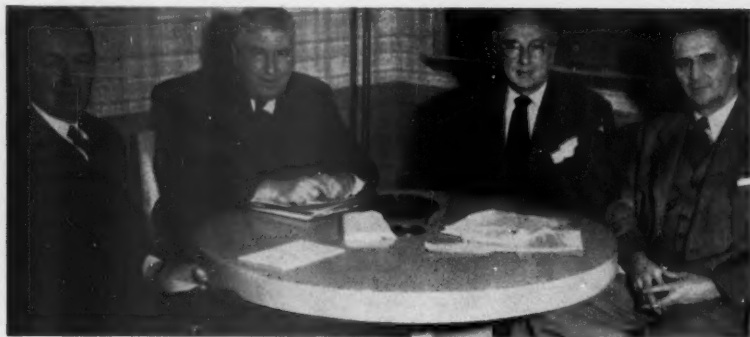
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NAMED TO HIGH KIMBERLY-CLARK POSTS



These four men have assumed high positions in Kimberly-Clark Corp. organizational changes at Neenah, Wis., headquarters. They are (l to r): W. H. SWANSON, named Asst. Vice Pres. and Director of Research and Development; R. W. LYONS, named Vice Pres. in charge of Woodlands; WILLIAM R. KELLEY, new Vice Pres. in charge of Manufacturing, and FRED S. SEABORNE, appointed Asst. Vice Pres. and Gen. Supt.

DeZURIK HAS NEW QUARTERS IN SARTELL



NEW ADMINISTRATIVE AND ENGINEERING quarters for DeZurik Shower Co., at Sartell, Minn. The two story brick-veneer building is now in use. DAVID DeZURIK (shown in inset), President says: "A substantial increase in our production of valves and paper mill equipment required the additional housing."

MILL LEADS ENTIRE STATE IN PAYROLL SAVINGS



PORT TOWNSEND DIVISION of Crown Zellerbach Corp. was the first company or plant in the entire state of Washington, of any kind, to qualify for a Payroll Savings Pennant Award from the U. S. Treasury Dept. In an 8-week drive, 530 employees, 65% of the staff, bought savings bonds. F. L. ZIEL (left), Resident Mgr., is shaking hands with JAMES B. MATTHEWS, State Savings Director. At extreme right is TOM J. WADE, Assistant Personnel Supervisor at the mill and its savings committee chairman. Others are Mrs. CHARLOTTE LUNDGREN, savings bond clerk; CHESTER J. FLINT, County drive chairman; HUBERT BAGLEY and ED BUSSE, Presidents of the two AFL locals at the mill.

Alexander Calder, Jr., Exec. V. P. of Union Bag



Union Bag & Paper Corp. announces the appointment of Alexander Calder, Jr., (shown in picture) as executive vice president and general manager. Previously, Mr. Calder had been vice president and assistant to the president.

H. S. Daniels, who will shortly complete his service as consultant to the OPS in Washington, will take over the direction of all company sales as executive vice president and general sales manager.

James L. Knipe has resigned as vice president and general sales manager, but will continue his association with the company as a director.

Union Bag headquarters are in the Woolworth Bldg., New York, its pulp, paper and converting operations are centered in Savannah, Ga., but it also has another bag plant at Hudson Falls, N. Y.

THEN—AND NOW—



LES LALIBERTE—as he looks today (on left) and as he appeared when he sat at wheel of his first automobile—a Ford—in 1916. As nearly every papermaker in the Middle West knows, Mr. Laliberte is Superintendent of Mill 2 at Kalamazoo Vegetable Parchment Co. He belongs to a famous papermaking family. His brother, Reuben, is at Kimberly-Clark's Niagara, Wisconsin, mill, where their father, the late Joe Laliberte worked for many years.

MAINE'S BEAR AWARD



PROF. JOHN B. CALKIN (left), Director of U. of Maine Dept. of Industrial Cooperation, is shown presenting U. of M. Black Bear Award to J. LARCOM OBER (right), Vice Pres. of Scott Paper Co., at company headquarters in Chester, Pa., for "outstanding service in promoting university spirit." Mr. Ober, class of '13, Maine, is Chairman and a founder of U. of Maine Pulp & Paper Foundation, has employed and placed many graduates, participated in many alumni affairs.

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**Slip-proof
Slap-proof
Shock-proof**

There's no stretch, no slippage with Link-Belt Silverstreak Silent Chain Drives. You're sure of *positive* transmission of every unit of horsepower your motors develop. For every rating, every design has been proven 98.2% efficient.

You conserve space, too—Silverstreaks operate efficiently on extremely short centers. Ratios as high as 10-to-1 are commonly used.

For high speeds—for tough operating conditions—for years and years of trouble-free service—you can't beat Link-Belt Silverstreak Silent Chain Drives.

Silverstreak Silent Chain does the job with a single strand—eliminating the dangers that come with one or more belts in a group carrying more than their share of the load.

Musky Silverstreak metal link construction combines the ability to carry heavy overloads with the resilience that really absorbs shock.

"Pull" is distributed equally across Silverstreak Silent Chain. No possibility of uneven running—slapping.

Silverstreak Silent Chain doesn't rely on tension to get pulling power—chain meshes with teeth—gives **POSITIVE** drive—no chance for slip.

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ELJ:JW

The Munising Mill Sale

REHABILITATION PROGRAM PLANNED

The long-expected sale of Munising Paper Co., one of the northernmost mills of the United States, has at last been consummated. Holding the rare distinction of being a pulp and paper mill without ever owning a stick of timber or acre of timberland, some observers considered it was living on borrowed time in this era when integration has become increasingly important. However, the high technical skill of its papermakers set it off almost in a class by itself—its markets rarely challenged.

Kimberly-Clark Corp., headquarters at Neenah, Wis., the new owner, announces that it plans rehabilitation of the Munising properties with its earnings. Munising has long been widely known in the industry for its approximate 80 tons a day of high quality specialty sulfite papers, some of them unique patented products.

Its acquisition puts K-C into the specialty and fine paper field, in addition to its already substantial production of Kleenex, Kotex, other cellulose wadding, book paper, newsprint, and sulfite, groundwood and kraft pulp in five Wisconsin mills, and six other wholly or partly-owned mills in Tennessee, Alabama, New York and Ontario.

Sale of the Munising mill which had been owned by a Chicago group, followed in a few weeks the sale of the Manistique, Mich., mill of The Mead Corp., to the Trenton, N.J. Times Corp. Manistique, which is just across the North Michigan Peninsula (51½ miles south-southeast of Munising), will revert back its original product, newsprint, from book paper, all of it for South American papers.

The Munising mill has sometimes been termed the "Institute of the North"—a comparison with the Institute at Appleton. This is partly because of the men now scattered from coast to coast in the industry—Howard Morgan, James Foote, Ray Baker, Dr. Forman, Dr. Howells and others who got part of their training at Munising, and partly because of its emphasis on technical advancement.

It is also one of only two sulfite mills remaining in Michigan, and as a small in-

dependent, it found it increasingly difficult to obtain wood in the market. Competition with Wisconsin mills on freight hauls from the peninsula, and recent restrictive developments across the lake in Ontario, were felt by Munising. Disease also cut down supply from infected spruce forests 150 miles across the lake in the Nipogen region. Incidentally, in that general area and farther north in Ontario, Kimberly-Clark subsidiaries have some of the largest and most useful forest holdings. In recent years, the Munising mill had to deal with from 200 to 250 producers of wood to get adequate supplies, where years ago it was easily supplied by 50 or less.

Regarding the effects of the sale, C. W. Curtis, vice president and resident top executive at Munising, told PULP & PAPER:

"Munising will continue to maintain its corporate entity and operate just exactly the same as it has in the past."

Executive and sales offices are at 135 South La Salle St., Chicago, where B. L. Trillich, the president of the company, and others continue in their capacities.

At the mill N. J. Nicks, widely known as the inventor or developer of several specialty papers, is the superintendent. Joe Nicks is night superintendent; James McIntyre, technical director, H. G. Elliott, power engineer, W. H. Hebert, traffic manager, and W. Joslin, purchasing agent. The mill has 75 acres of land. The company sales in 1951 totalled about \$9,000,000 in fine papers, treated papers and household products.

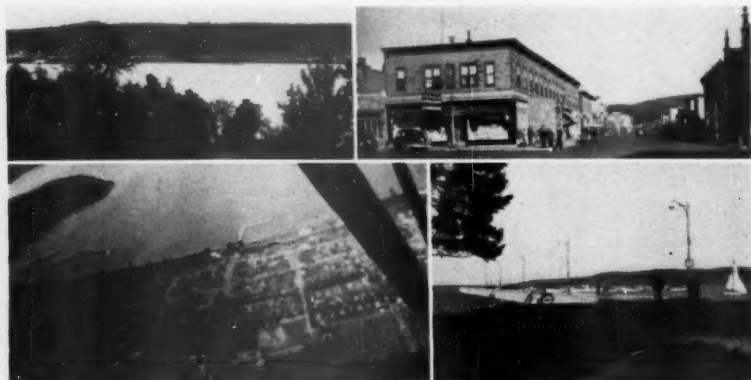


MAP SHOWS MUNISING, the road leading South through Hiawatha National Forest to Escanaba, Menominee, Marinette and Wisconsin's Fox River Valley. Distances to other points are shown.

A Michigan Playland

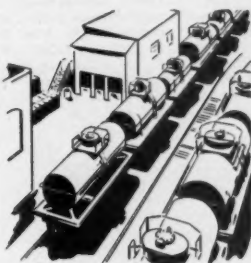
Munising, seat of Alger County, is a summertime playland center, a falltime hunting, fishing and yachting paradise hub, and often in winter, it is a rugged land with snows piled high on it and 15 or 20 below temperatures. Many a pulp

MUNISING, MICH., has what is perhaps the most attractive and scenic harbor on Lake Superior. Munising Bay is shown at upper left; a street scene at upper right. An aerial view of the town is at lower left (the pulp and paper mill is just out of this picture, off to the right). At lower right is a view of the pier and yacht basin. Munising looks across its bay to Grand Island, a popular vacation spot. The Indians called it Kitch-i-min-iss.

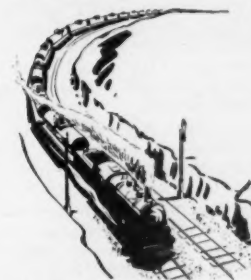




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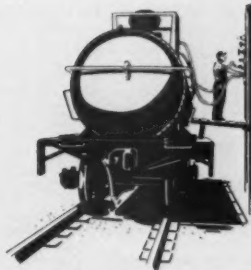


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- 201 Process and Equipment for Making Bleach Liquor for Use Without Settling
- 211 Chemistry of Bleaching Chemical Wood Pulps
- 214 What Do We Know About Bleaching?
- 236 Importance of pH and Catalysts in Bleaching Operations
- 242 Production and Use of Unsettled Bleach Liquor
- 243 Procedures and Brightness Grades in Bleaching Sulfate Pulps

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February 1952

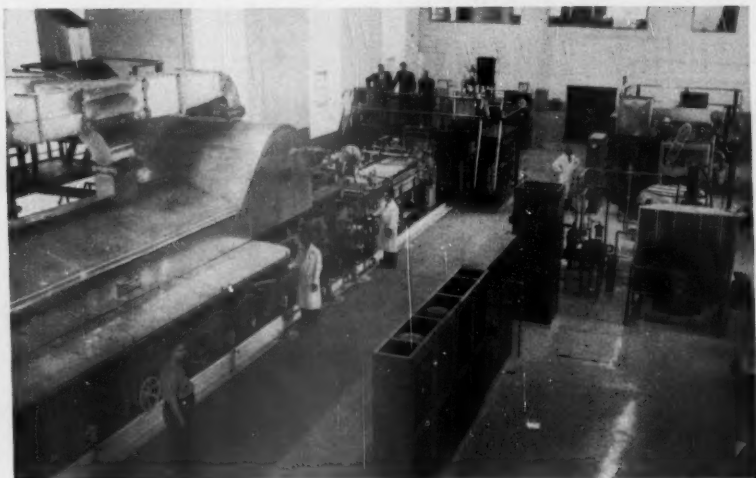
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CHEMICALS**

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and paper mill traveler has felt the cool breeze off Lake Superior as he drives down through the draw to the town, from the forests to the south. But partly sheltering the town and bay is Grand Island, a resort spot of old trails, trees, deer, wild flowers and birds. There are other islands, too. Shelter Bay and Au Train Bay resorts and beaches are along the shore to west of Munising. Pictured Rocks is the name of the shore to the northeastward, long ago worn smooth by moccasined Indians delivering furs to the American Fur Co., or gathering around

Father Marquette, who preached here, or coming ashore with catches of the big trout called Mackinaws. There are many lakes and waterfalls in this region. In Hiawatha National forest to the south, one sees big stumps of the Norway pine, but now the jack pine and other species are thriving. It is 88 miles from Munising to the St. Ignace short ferry crossing to Southern Michigan. "Hay Fever Haven" is a nickname sometimes given the area, and Munisingers will not hesitate to claim their town at the head of Munising Bay is the jewel of all Michigan.

NEW EQUIPMENT IN PAPER SCHOOL



AT SCHOOL OF PAPER MAKING in Three Rivers, Que., is this new 30 in. Fourdrinier paper machine made by Bagley & Sewall, with ventilating hood by Ross Engineering of Canada. Speeds up to 300 fpm.

Quebec's School of Paper Making in Three Rivers has been operating for several years and has already won fame throughout the Canadian industry for training of young men; but only recently was a paper mill added to the school. Although of miniature size, Director Gaston Francoeur believes the paper mill to be one of the most complete in existence.

The 30-inch sheet Fourdrinier paper machine was built by Bagley & Sewall Co., Watertown, N.Y., and ventilating hood by Ross Engineering Co. of Canada. Speed of machine ranges up to 300 feet and capacity is three tons per 24 hours. At present the paper mill is operating three days a week, the sulfite plant one day and the semi-chemical (rag cooking, soft board and hard board) plant functions one day a week. The students are supervised by the school's staff during the operation, but individual students have complete charge of the mill for two-week periods.

Other suppliers of equipment (American designer or licensor in parenthesis) besides those mentioned are: Canadian Vickers (Sandy Hill Iron Works) three pocket grinders and Meyer load governor; Norton Co. of Canada, grinding

stone; Alexander Fleck, Ltd. (Black-Clawson-Shartle & Dilts) consistency regulator and Hydrapulper; Sherbrooke Machineries (Impco) flat screen and vacuum pulp thickener; Canadian Ingersoll Rand (Bird) screen; Pulp & Paper Mill Accessories jordan; Homad Services (Hermann Mfg. Co.) Claflin refiner.

In the semi-chemical plant, Waterous supplied the rotary bag digester; Shawinigan Chemicals the blow tank; American Defibrator, the Asplund defibrator; Dominion Engineering Co., the 110-ton hydraulic press; Canadian Stebbins the tile chest and Pulp & Paper Mill Accessories the 5-pound beater. Equipment operated in the basement of the school includes eight tile stock chests by Canadian Stebbins; pumps Canada Pumps—(Buffalo); and Hytor vacuum pumps.

Kimberly After Safety Record

As we went to press, the Kimberly, Wis., pulp and paper mill of Kimberly-Clark Corp., was well past the 3 million man-hour mark for no lost time accidents and hoping to smash the all-time safety record for all types of mills in this industry in mid-February. The record is 3,343,598 man-hours held by Hollingsworth & Whitney Co., Waterville, Maine.

**SEE PAGE 3 FOR INDEX
To Articles in This Issue**

New Appointments At Potlatch Forests Inc.



New executives at Pulp and Paper Division of Potlatch Forests Inc., Lewiston, Idaho (left to right): ED. E. CYPERT, new Manager, who was 20 years with International Paper, starting in Panama City; ALVIN TUTEN, Gen. Supt., formerly with North Carolina Pulp, and EDWARD E. ARCHIBALD, Jr., Chief Chemist, formerly with H. & W. Co., Mobile. Appointments were announced by WM. P. DAVIS, Pres. and Gen. Mgr. of Potlatch Forests.

Mr. E. E. Cypert has been named manager of the pulp and paper mill at the Clearwater unit of Potlatch Forests, Inc., according to W. P. Davis, president and general manager of PFI.

He replaces Joe Betts who has been acting manager for several months in addition to chief engineer of the pulp and paper mill.

Mr. Cypert formerly was assistant general manager of the Container Division for International Paper with offices in New York. He has had 20 years in International. He was raised and educated in Panama City, Fla.; started his career with I. P. there. His wife and son accompanied him to Lewiston.

Alvin Tuten has been named general superintendent of the pulp and paper mill. He succeeded O. B. Smith who returned to International Paper Co. Mr. Tuten went to Lewiston from the North Carolina Pulp Co., Plymouth, N. C., in September, as previously reported. He was born in Stamps, Ark., Dec. 10, 1905. His first job in the paper industry was in 1919 for the Yellow Pine Pulp & Paper Co., Orange, Texas, pioneer Southern mill. Later he spent 18 years with International Paper at Camden, Ark.; Mobile, Ala.; Panama City, Fla.; and Georgetown, S. C. At each of these mills he helped start operations. He and his wife, Seline, have one boy, age 19, now a Wash. State College freshman.

Edward E. Archibald, Jr., has been named chief chemist for Potlatch. He succeeds Roland Fortier who was made superintendent of the pulp mill. Mr. Archibald came from Mobile, Ala., where he spent 11 years with Hollingsworth & Whitney. He was technical superintendent when he resigned to come to Lewiston. Ed was born in Landerneau, La., Aug. 21, 1914. He married his wife, Ola, in 1939. They have two children, Ann, 10, and Mac, 6. Ed started in the industry in 1937 at International, Bastrop, La., and later worked at the I. P. mill at Springhill, La.

SAVED
in 10 months!



Photo courtesy of
St. Joe Paper Company

Six of these wood piles were saved between March and December, 1950 by a large kraft mill in the South. Actually, the mill saved more than that—a total of 26,200 cords. With this tremendous saving in wood went an appreciable increase in pulp quality. These results were obtained simply by installing a Sutherland High Yield System.

This is conservation where it really counts—in the *growing* tree—and a potent factor in the progress of the pulp and paper industry.

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GOVERNMENT AND BUSINESS

PULP AND PAPER EXECUTIVE ANALYZES PROBLEM

McSWEENEY WROTE ON SMALL MILLS FUTURE FOR PULP & PAPER

Edward McSweeney (shown in picture), author of the accompanying article, is treasurer and a director of Perkins-Goodwin Co., and he also holds a directorship, among others, in the Southland Paper Mills, Inc. His principal interests since graduation from M.I.T. in 1923 have been in the graphic arts field, and in the field of management consulting. He founded his own firm of management consultants in 1933, and is presently a member of the Marketing Council of American Management Assn.

No stranger to PULP & PAPER, an extensive interview with Mr. McSweeney on the "Future of Small Mills" appeared in its Sept. 1948 issue. This present article is taken from a talk which he gave before the Chemists Club in New York City in November. PULP & PAPER is proud to present these considered opinions on an important subject by a man whose experience in management in this industry makes him a qualified observer.



By Edward McSweeney

The more I link together "government controls" and "business management," the more it comes home to me that we had better do some fundamental research in an attempt to stumble upon a catalytic agent that will bring the words "government" and "management" a little closer together.

Businessmen generally tend to make the mistake of thinking of these two words separately, with "government controls" off to this side, and "business management" over there, as if they could be kept in separate compartments or cubby holes. The partition between them is, according to this concept, removable only now and then. Why don't we start by facing the real truth, which is that the two have become inseparable and have been inseparable for almost a generation? The geni is out of the bottle, and all of the spells we can evoke won't put it back again.

Let's try to get this in a little closer perspective. First there was the NRA, then World War II, the New Deal, and the Fair Deal. Now we have Korea and the rearmament program. We have renegotiation, which was enacted during relative peacetime following the lessons learned during the last war. It controls the amount of profit one can make on contracts with the government, which in turn is making it a lot more difficult for war contractors than during World War II. We have wage and salary stabilization with all their complications and the implications that they are going to further tighten the noose on the rapidly diminishing white collar group. We have the anti-trust acts and the Federal Trade Commission. We have the Securities and Exchange Commission. And most important to every one of us we have the Income Tax and the Bureau of Internal Revenue. Between them and the courts they do a lot of legislating and controlling on every one of us.

All of these are in addition to the regulatory powers and agencies which influence and control "management" in banking and "processing" and "transportation"

and all other vital aspects of industry and trade. And still in the formative stage but daily becoming more concrete we have restrictions against "bigness," against "advertising," against business expense accounts, and as we look across the Atlantic we see the threat of the trends of nationalization and socialization.

Viewed against this backdrop, the current materials, credit, wage and price controls are merely minor irritants. They do serve to remind us, however, that we live in a world and an era when business management everywhere must subordinate itself and adjust itself to global tides and national interests.

The present mobilization program, which is still in the formative stages, could do what earlier phases have failed to accomplish—that is, convince business management generally that their philosophy of management is incomplete if it does not include the arts of living with government controls. By "living with" I mean more than mere accommodation. Whether as individuals we like it or not, we are in partnership with the government. Like any other kind of partnership, it can be made to work agreeably for both parties, but only through cooperation and teamwork.

We only need to work with, or visit, the mobilization and stabilization agencies in Washington, to realize that this partnership is steadily evolving. Most of the men we see are businessmen.

They have no illusions regarding the impermanence of the team. They know that it must be welded and perfected not just for today or tomorrow but for a long time. These men are just the vanguard of business management in government. Their constant goal and prayer is for the creation of a continuing, constantly rotating task force of younger, vigorous successors—men in their 30's and early 40's—who will serve their hitch in government and then return to business, giving way to fresh replacements. No better way could be found to make the partnership durable and lasting and to insure that the controls we live with—not under—will be

the kind our country, our economy and our way of living require.

Just as business is here to stay, so government is here to stay, and I subscribe to the principle that after all government is men. Good men make good government, and bad men make bad government.

Recently I have discussed my ideas with many influential and thoughtful people whose concurrence has strengthened my own conviction. My good friend, Larry Appley, head of the American Management Association and one of our real leaders in management thought, expresses it this way:

"To state the idea briefly—there is every indication that we are in a 'management' renaissance. It involves the development of 'leadership' rather than the assumption of power, and it is fostered less by the 'palace' technique on management's part than by management's recognition and acceptance of the obligations and responsibilities of leadership.

"It is my sincere belief that the next ten or twenty years will go down in history as the 'management' era. There is every indication that stronger leadership will be coming from management than from any of the other sources to which people commonly look for guidance.

Today the free world cries out for leadership. There is no better example of the importance of leadership than in American business.

This whole subject of the responsibilities of management, in all its aspects, is so vitally important that I think we should take another closer look at just what the word "management" really means.

The truth is that management is a broad term. In a business corporation it covers those who manage or direct the company's affairs. In a labor union, it is a paid manager together with various office personnel and a body of elected officers who might serve without remuneration. In a government bureau it is the people who direct the affairs of the government. The word management, like any other that has been loosely applied and abused, needs qualifying.

Let us start this qualifying by suggesting that we always use the qualifying terms—"Business Management"—"Government Management"—and "Labor Management." But, of course, it is true that the primary functions of a corporation, a union and a government agency are sharply different, no matter how interchangeable its officers. Each class of organization has its unique objective and prerogatives.

For example, the management of a labor union is chiefly concerned with selling its most valuable commodity—man-hours of labor—on the most satisfactory terms obtainable. The job of business management is to make a profit for the owners,

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And the washing is being done on two lines of Oliver Ringvalve Washers, providing a new washing system for a well known company, long in business.

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Believing the management would be willing to have others in pulp and paper manufacturing go through this new wash room, we suggest that if you are in the neighborhood, drop in and see the Oliver Ringvalves at work. You will get an excellent picture of the efficient way these washers are serving your industry, particularly in the States and Canada.

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Johannesburg, Transvaal

without which no business can continue to exist. The function of government management is to tax, regulate, police and protect within a carefully defined framework. History has abundantly shown that these objectives are not mutually exclusive.

A point of greatest importance is often hidden until we examine the way business management goes about making a profit. The fact that business management is concerned with efficiency and employs production engineers has given many the impression that this is the dominant concern of all business. But the head of the Government Printing Office is also concerned with efficiency. So is the International Ladies Garment Workers Union. If we go far enough it turns out that the only management activity that sets business management apart is the creative function. In the final analysis, this is the function that brings in the true profit and gives business management its right to "incentive" earnings.

A business makes a legitimate profit by bringing "more and better things to more people." This is not only in terms of manufacturing. The creative function is also

exercised by the section of business management concerned with market research and distribution.

The creative function serves yet another purpose. It establishes a friendly contact between producer and consumer. The man who sells a gadget to make better toast for less money is the housewife's friend.

Now let's take another look at business management in this new light.

To what extent is business management itself to blame for its troubles? Hasn't business management, in the battle of propaganda, in most cases failed to take advantage of its first prerogative and greatest strength—the creative function? Isn't business management so worried about giving way on the wage and price front, where labor and government are legitimately concerned, that it often fails to exercise the creative function?

I still believe in the "brave new world" of more and better things for more people. I still think that the drudgery of housework is only partially eliminated and that the other discomforts of daily life deserve immediate attention. Correcting these ills

—exercising the creative function—will provide business management with the profit opportunity and the public relations opportunity it so desperately needs.

After we get our defenses in order, let business "management" go back to the job of emancipating the Nation from the accumulating complexities of modern living—and see if business doesn't make both friends and profits in the process.

Government must look to business in the building of an enduring world economy, but we must not wait until called upon. Business must assert that leadership.

If business "management" is going to understand politicians and work with them, they must become tough-minded realists, because labor leaders are tough-minded realists and politicians are tough-minded realists.

If for one will be satisfied if the present emergency and the new controls that "business management" must "live with" have the effect of waking us all up to the basic problem which both government and business must recognize—best summed up in the immortal words—"United we stand, divided we fall."

Good Management Men

HOW ONE COMPANY DEVELOPED THEM

Just as vital a message for the pulp and paper industry as for any other is the frank disclosure of William B. Given, Jr., of the steps he took to overcome a serious shortage of good management men in his company when he became its president. Mr. Given is now chairman of his 55-plant enterprise, American Brake Shoe Co. This is what he had to say:

"My most important, and probably most critical, responsibility was the development of management people. We needed more capable men in all ranks. On the compensation side, a good job had been done—in fact, very good.

"Analyzing the past, it seemed obvious the main handicaps were:

"1. Too many executives who did not rate the confidence of men under them.

"2. Too little delegation of authority.

"3. Too little indication of human interest in individuals.

"4. Too seldom any idea of how you stood with the bosses.

"5. Too many men feeling they were grooved into a small area.

"6. Too few team players.

"7. Too much personal criticism—too seldom warranted praise.

"These are all human needs. As a result, there were too few good men having the objective of spending their work life in Brake Shoe. Having then had eight years as a vice president, the bad spots were as much my fault as any other person's.

"Stimulant number one is the right kind of human beings in all executive positions. And as you move the offenders aside or out, the other's stimulation is im-

mediately apparent. If you don't move them, it can't be offset by inflated salaries or glorious stock plans for the others. Actually, stockholders can't afford in senior places men who will stand for such people.

"One of the most important factors in bringing out the man's best comes in a realization by the individual that if he does a good job it will be recognized. Another great stimulant to competent people is in a feeling of personal freedom; freedom to think and plan boldly; freedom to venture along new and untried paths; freedom to fight back if their ideas or plans are attacked by superiors; freedom to take calculated risks. These adventures make men restless to get back home and tell the story. In the telling, there is not only personal pride, but also pride of company. How the man's family feels about his company has great effect and needs constant consideration. This is built through his feeling of freedom.

"Few are born to team-play. It requires enlightened self-interest. Thus, team play comes more naturally to seniors in business than to juniors. Some play well only with men of their own rank; others only with their seniors, or with their juniors. To be really effective, team-play must be throughout all ranks. Incidentally in business, the wife sitting on the side-lines, cheering, has an important position on the team. Experience has proved to seniors that recognition as a team player brings home more bacon than the show of a brilliant event. Also, they have found it more fun. The day anyone begins to feel himself part of a team there is instant stimulation.

He is then more company minded, more cause minded.

"All really worthwhile in management get a kick out of freedom to reach out into all parts of a company with suggestions and any type of help. I keep repeating 'we want to capitalize on all your ideas, abilities and knowledge. Don't limit your contributions to your own department. Be part of the whole company, not only your own area.' We have superimposed what we, for years, have called 'Bottom-Up Management,' 'Reaching-Out Management.' We are hell bent on pushing management people, sales people, operating people to reach out into other than their own areas with whatever they not only have but think they may have to contribute. They, on their part, get a thrill out of such contributions. Although praise as to something done within your own area is cheering, praise for contributions outside your bailiwick brings a greater glow.

"When it is decided to promote a man at a future date, we discuss it with him at the time of the decision—that moves forward the stimulation.

"Frequently, seniors think of loyalties only in terms of those to a company or to a boss. The essential loyalty is that one which flows down the management line—the loyalty of the boss to the man under him. General Ridgway recently said—'Loyalty that comes from the top down is just as vital as the loyalty that comes from the bottom up.' I think it more vital! The man to whom a fine person cannot be

(Continued on page 100)

WOOD PULP PAPER

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CELANESE PULP-PAPER PROJECT

Official announcement of a new \$65 million Kraft pulp and newsprint project by Celanese Corp. of America in southeastern British Columbia was made in Vancouver, B. C., jointly by Harold Blancke, president of Celanese, and Hon. E. T. Kenney, British Columbia's minister of lands and forests.

Emphasis is laid on the company's plans for complete utilization of the timber available in that area, and the company has made application for a forest management (sustained yield) license covering about 3,000,000 acres in the Arrow Lakes district tributary to Castlegar, where the mills will be located.

Construction will be started as soon as engineering has been completed and materials and equipment can be obtained. Plans call for 400 tons of bleached and semi-bleached Kraft pulp daily, and daily capacity of 275 tons of newsprint.

Plans for a plywood mill are under consideration.

A board mill to utilize by-product material from the pulp mills is also planned, and a factory for recovery of tannic acid is contemplated.

The whole undertaking, as at present envisioned, will comprise one of the continent's most ambitious programs for integrated forest industry.

The operation name is Celgar Development Co., Ltd., a new subsidiary of Celanese.



CASTLEGAR, B. C., is site for new Celanese newsprint and kraft pulp mills. Celanese (Cellulose) sulfite mill is at Prince Rupert. Powell River plans a new mill of its own at Kitimat. Elk Falls Co. (Crown Z and Canadian Western) is well along in plant construction of newsprint mill at Duncan Bay and announces work will commence soon on a kraft mill at Duncan Bay. Harmac will be doubled and Port Alberni may soon be enlarged. All the other mills shown are being enlarged or recently have been.

nese whose investment in Canada will represent more than \$150 million, including the \$50 million chemical project at Edmonton, Alberta, and Columbia Cellulose Co. at Prince Rupert, where its new pulp mill is already being enlarged.

NEW TACOMA MACHINE BY FALL

While PULP & PAPER last month quoted high government authorities as saying critical materials would not be available for new pulp and paper projects before late 1952, and that newsprint would not be given any preference, a group of Pacific Coast newspapers who own the West Tacoma Newsprint Co., West Tacoma, Wash., and their engineers have steadily pounded away to build up their mill's production for five years against all sorts of barriers.

Now they are going to have a new 145-in. Pusey & Jones Fourdrinier machine and Westinghouse drive, with anticipated delivery in the fourth quarter of 1952.

The ownership has increased from 11 original publishers to 44, who control more than 50 newspapers. By next year, the new machine is expected to increase mill production from 26,000 to over 62,000 tons a year of newsprint. Pro-rated according to investment, newsprint allotted to each of the owners ranges from 50 to 9,000 tons a year.

While the official statements published last month apply generally to many new pulp and paper projects, including several in newsprint, the West Tacoma Newsprint Co. expects to make good its expansion by 1953 because it is generally using existing buildings, already has grinder motors on hand and an enlarged water system completed in anticipation of its growth. Only foundation revisions in the present building will take care of the new machine, also revisions in the pulp preparation plant. Only the grinder building needs to be extended.

The expansion is costing \$5,000,000. The

11 original owners will own 77% of the mill, the new 33 owners will own 23%.

Frank S. Baker, publisher, Tacoma News Tribune is president of the newsprint firm. Other original owners are: Oakland (Calif.) Tribune, Yakima (Wash.) Herald-Republic. The Everett (Wash.) Herald, Los Angeles Times, Eugene (Ore.) Register-Guard, San Diego Union-Tribune, Bellingham Herald, McClatchy newspaper chain in California, San Francisco Chronicle, and Aberdeen (Wash.) World.

New owners are: Spokane Spokesman-Review and Chronicle, Vallejo (Calif.) Times-Herald, Sacramento Union, Pasadena Independent, El Centro (Calif.) Press, Bremerton (Wash.) Sun, Tucson (Ariz.) Newspapers, Inc., Longview Daily News, The Albany (Ore.) Democrat-Herald, Salem (Ore.) Statesman, Santa Ana (Calif.) Register, Sheridan (Wyo.) Press, Speidel newspapers of Visalia and Salinas (Calif.). Fairbanks (Alaska) News-Miner; Seattle Times, Anchorage (Alaska) Daily News, Roswell (N. M.) Daily Record, Santa Monica Outlook, Vancouver (Wash.) Columbian, Whittier (Calif.) News, Riverside (Calif.) Daily Press, Temple City (Calif.) Times, Pomona (Calif.) Progress Bulletin, San Bernardino Sun; Provo (Utah) Herald, Wenatchee World, Cheyenne newspapers, Peninsula newspapers of Redwood City, Burlingame and Palo Alto (Calif.), San Rafael (Calif.) Independent-Journal, Rotaprint Service of Los Angeles, Eureka (Calif.) newspapers, The Medford (Ore.) Mail Tribune and Colorado Springs Free Press.

Ray Peterson of Valley Named to NAM Board

Ray A. Peterson, president of Valley Iron Works, Appleton, Wis., was recently named to the board of directors of the National Association of Manufacturers. He succeeded Cola G. Parker, president of Kimberly-Clark Corp., Neenah, Wis., who retired after his 7th term.



RAY A. PETERSON (left), President of Valley Iron Works, Appleton, Wis., manufacturers of custom-built equipment for many pulp and paper mills, has been elected to the Board of Directors of the National Association of Manufacturers.

JOSEPH CONWAY (right), who has been re-elected President of the Sulfite Pulp Mfrs. Research League for the year 1952, and who announced increased budget expenditures planned by the 12 member mills. He is also Pres. of Hoberg Paper Mills.

League Re-Elects Conway And Votes Bigger Budget

Midwest mills have voted to keep their sulfite pollution research program going at full speed, the Sulfite Pulp Manufacturers' Research League announces. Twelve companies with mills in Wisconsin and Michigan committed their firms to contribute for a 1952 research budget substantially larger than the 1951 outlay. J. M. Conway was re-elected president of the League. He heads Hoberg Paper Mills, Green Bay. Other officers re-elected are: Vice president, Folke Becker, president, Rhinelander Paper Co.; secretary, John G. Strange, vice president, Institute of Paper Chemistry; and treasurer, Cola G. Parker, president, Kimberly-Clark Corp. League technical committee officials are: Chairman, H. A. Rothchild, technical director, Kimberly-Clark; secretary, N. L. Malcove, technical superintendent, Northern Paper Mills; and technical director, Averill J. Wiley.

Twelve companies that operate 14 sulfite mills with 90 per cent of Wisconsin's total output and a large share of Michigan's have ratified a new five-year contract. Thus work of the league, which started scientific operations in 1939, is guaranteed through 1956. Members boosted the budget almost 23 per cent from last year's \$118,000 to \$145,000 for this year. Previous cost of membership was 27½ cents per ton of sulfite pulp manufactured. Retroactive to June 1, 1951, members are assessing themselves 33 cents a ton.

The League maintains laboratories and pilot plants at Appleton, supervises technical developments of the Lake States Yeast Corp. plant at Rhinelander, supports research at the Institute.

all
through the mill

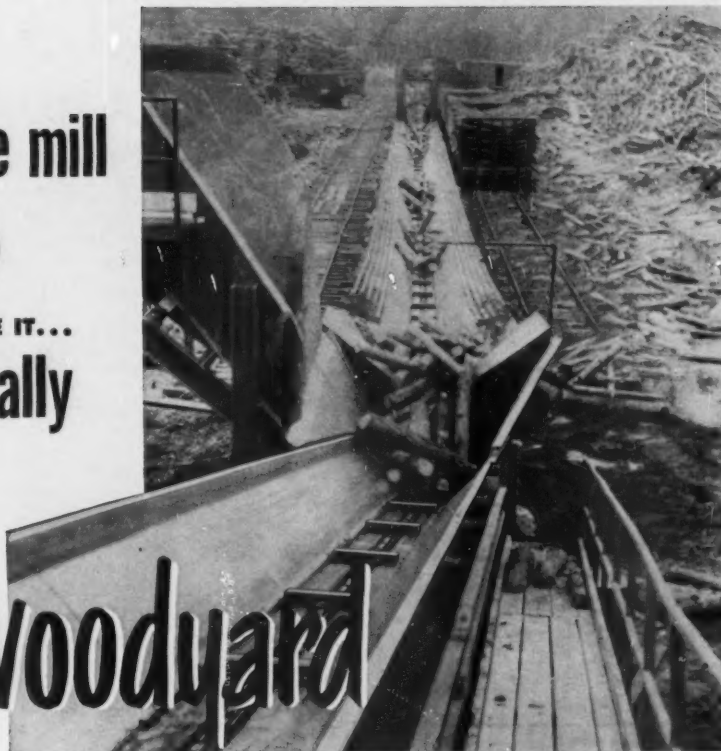


HELPS YOU HANDLE IT...

economically

FOR EXAMPLE...

the woodyard



Here is a fine example of a woodyard conveying system designed by Rex engineers. This one is in a large southern pulp mill.

All the way from pulp wood to paper, Rex can help cut your handling cost. Chain Belt Company's wide pulp and paper mill experience can "engineer out" many of your headaches. Their engineers are constantly alert to the change and progress within the industry. Whether it's by chains, belts, bucket elevators or any combination, Rex men are experts at recommending the one overall plan that is best for your particular operation.

Take the woodyard, for example. Moving "sticks" from storage pile into the mill may call for several different types of chain or other conveying methods. It may call for construction of special troughs, ramps, tracks and other major items. You'll find it well worth while to let the Rex man help you plan the whole operation. His knowledge of your problem, plus his knowledge of the complete Chain Belt line of Chains, Idlers, Conveyors, Elevators and the like, makes him your "right hand" ally in your search for finding the *best* way of doing the job.

Call your nearest Chain Belt branch office or write to Chain Belt Company, 4691 W. Greenfield Ave., Milwaukee 1, Wisconsin.

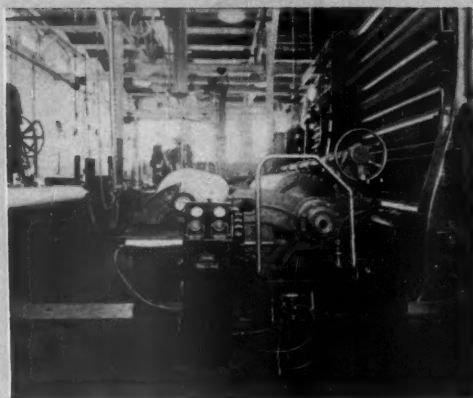


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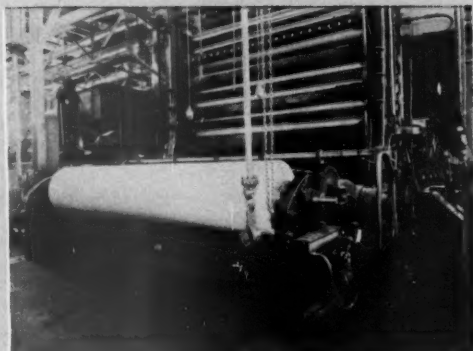


with a new Reel

An increasing demand for the Pusey Jones Improved Type Uniform Speed Reel reflects the enthusiasm of the industry for this important new development. A prominent mill made the first installation . . . and soon placed orders for two additional Reels. Many other mills are now replacing older-type Pope Reels with this efficient Reel.

The improved Uniform Speed Reel is outstanding for simplicity of operation. A pneumatic adjustable loading mechanism simplifies reel changes and gives added safety to the operation. There is no loss of production time. Operation is at constant paper speed.

Whether you are interested in modernizing your present machine for better profit or installing a complete new high-speed paper-making machine, the experience of Pusey Jones engineers is at your service. Write or call us today.



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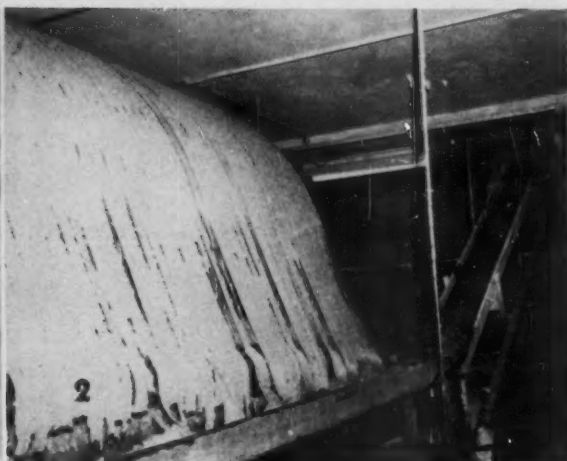


Deinking in New England

HOW FALULAH PAPER CO. DOES IT



1—FEATURE OF FALULAH UNIT is an access tunnel for sludge pipe running from sludge pump to sludge cone. This photo shows entrance of line through tunnel to dewatering and sludge removal plant, with pump at bottom.



2—OLIVER UNITED FILTERS CO. 8 x 12 sludge dewatering-type filter has string-type discharge over a roller into removal conveyor. Conveyor discharges right into dump truck shown in rear for hauling to city dump. 265 tons of sludge have been removed in this fashion in one month.

A recent report of the National Council for Stream Improvement points out that pulp and paper ranks high among industries in regard to the number of plants providing waste treatment before disposal, and that approximately 40 per cent of all pulp and paper mills have external waste treatment plants.

The industry is continually making progress to improve its methods of waste treatment and remove sources of stream pollution. Developments reported in PULP & PAPER during 1951 include: Scott Paper Co. Waco Filter System—August; Consolidated Water Power & Paper Co. Sulfite Waste Liquor Recovery—July; Ohio Box-board OCO Water System—May; Wisconsin Developments in Sulfite Waste Liquor Control—March; Wisconsin Waste Liquor Plans—February; Sulfite Waste Liquor Disposal Pipelines in Washington—February; Burning Calcium Base Liquor—January.

The National Council, from Massachusetts to Michigan, has been conducting experiments in treatment of deinking wastes, and as a result of its activity and cooperation of many mills, important commercial installations have resulted.

Typical of the progress is that in plants located along the Nashua River in Massachusetts, two plants have been completed, and a third was being completed as this was written. All three are in drainage areas to the Nashua, near Fitchburg, Mass.

Deinking wastes have gone into the Nashua for as long as 75 years, and the problem has been recognized a long time.

The problem has been an economic one, too, since the systems installed, or being installed, cost approximately \$100,000 each to build and about \$7,500 a year to operate.

Crocker, Burbank & Co. Association took the first step about six years ago with completion of its plant. Falulah Paper Co. placed its unit in operation in Dec. 1950 and Fitchburg Paper Co. hoped to have its completed in early 1952—as rapidly as critical materials could be obtained. The latter two systems are identical in all important respects, and since they are similar to deinking waste treatment plants which may be expected to go up in many other parts of the country, they will be described in detail in this article.

Background Data

In late 1947 the Massachusetts Department of Public Health contacted the mills in the Nashua drainage area, calling attention to the undesirable conditions in the river. They pointed out that the industrial classification of the river was not being met and that several complaints of odors were received from the residents along its course. This matter was referred to the National Council for Stream Improvement by the mills and as a result the Nashua River Paper Mills Committee was organized.

Committee members include all mills in the drainage area: Crocker-Burbank Co. Association, Fitchburg Paper, Falulah Paper, The Mead Corp., Groton Leather Board Co., Hollingsworth and Vose Co.,

St. Regis Paper, and Spaulding Fibre Co. of Massachusetts, Inc. C. T. Crocker was chairman and has been succeeded by Bigelow Crocker.

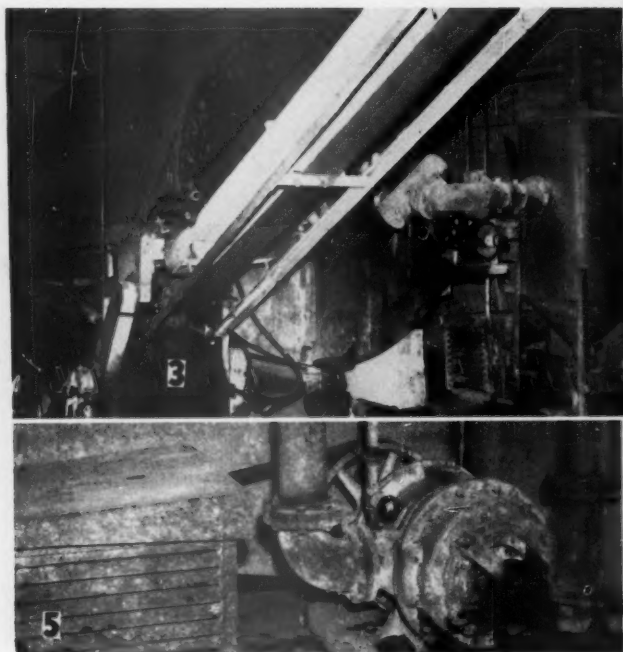
Since its organization, the committee held four meetings. At all of these representatives of the State Department of Public Health were present, as were other interested parties. The program advanced to construction and operation of treatment units and the completion of the entire venture is now in view.

The Nashua is some 50 miles in length and since many varied sources of pollution were present, it was felt by the committee that before a rational approach could be made to a solution, it was necessary to determine how much pollution was entering the river from each source and the effect this had on the river under various flow conditions. With this in mind, the following program was proposed and mutually agreed on at a joint meeting between the Department of Public Health, the mills, and the National Council for Stream Improvement.

1. *River survey.* A detailed survey of the river and all sources of pollution, including the paper industry, other industries and municipal pollution in the drainage area.

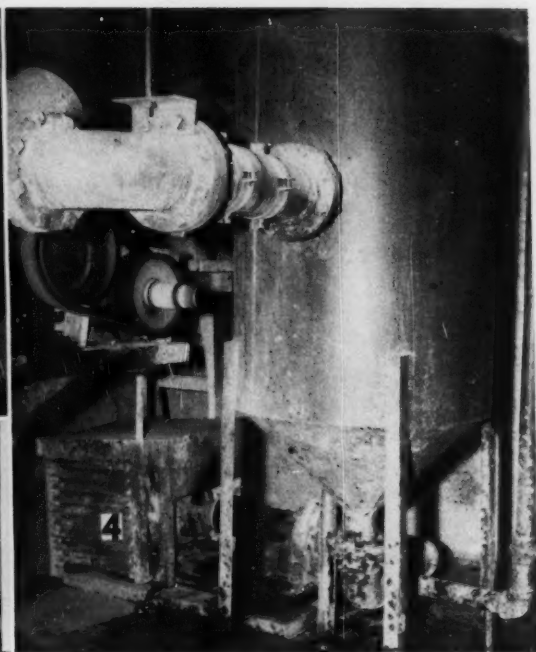
2. *Analysis of the survey.* Analysis of the survey by the Council's engineers in cooperation with the Department of Public Health to indicate the nature of the problem and the extent of remedial procedures required.

3. *Treatment.* Following the analysis, an investigation of the adequacy of available



3—END VIEW OF OLIVER VACUUM FILTER showing vacuum receiver tank at rear, filter at rear, and disposal conveyor overhead.

5—NASH "HYSOR" size 16 vacuum pump is powered by a Century motor and draws vacuum on Oliver filter.



4—CLOSE-UP OF VACUUM TANK (shown in picture at left). This shows Reeves variable speed drive at top left. Large line coming in to tank at top left brings in mixture of air and water from filter with air being taken off top and water through lines at bottom of tank.

treatment processes and the development, if necessary, of new methods as indicated by joint evaluation by the mills, the Council and the Department of Public Health.

This proposal was enacted jointly by the department and the council—the council surveying the paper industry and the river, the state the other industries and municipalities.

Completion of the surveys, both the sources of pollution and actual river conditions, showed that the critical sections of the river occurred in ponds and slow moving stretches. The degree to which they were critical depended upon river flow and temperature. It was brought out that the primary cause of the gross pollution and odor conditions which the department wished abated, was the accumulation of organic sludge deposits of mainly fiber. It was felt if these conditions were to be alleviated, the portion of pollutional load causing them must be removed.

With these rational factors to work with, the committee proposed that the three deinking mills construct and operate sedimentation systems to remove, to a major extent, the settleable organic matter in the waste. In addition, it was felt that improvements already planned and accomplished by the other mills were sufficient to bring about the required stream conditions. These latter improvements were mainly reduction of white water fiber losses. This proposal was approved by the mills and the State Department of Public Health. The National Council

agreed to assist all the mills in the design, construction and operation of units.

Falulah's Installation

Falulah Paper Co.'s system for deinking of approximately 45 tons per day, bale weight, of old book and magazine stock is a batch process. The furnish is first broken up and cooked in pulpers and then dropped to stock chests. Cooked stock is then pumped through a screening system to the washers. Washers are 3-stage counter-current of the Lancaster type. Dirty wash water leaves the system through the first stage. From here waste water is picked up by a collection pipe and flows by gravity to the treatment system. The rate of flow from the washers approximates 700 gpm but the total daily flow due to the batch process is only 480,000 gallons.

The treatment system was designed to handle water at the rate of 1.0 MGD. It consists of a circular clarifier of 40 ft. diameter, 10 ft. water depth. Waste water from the mill flows into the tank through a central stilling well. From here it flows down and outward over a peripheral weir into a collection launder. Clarified water then flows into the mill tailrace and thence to the Nashua River. During this period, the settleable solids, composed mainly of fiber and clay, subside to the bottom of the tank. The tank bottom is an inverted cone with a slope of $1\frac{1}{2}$ inches per foot toward the center. A mechanical scraper mechanism on the bottom pushes accumulated solids to the center. At this

point there is a small sump. From the sump, an 8-in. pipe carries the sludge into the filter house. It is picked up by a centrifugal pump and pumped to the vat of the vacuum filter. The filter is an 8 ft. diameter by 12 ft. length drum type with 300 sq. ft. of filter area incorporating strings for cake discharge. After dewatering on the filter, the sludge cake drops to a conveyor and is carried to a 11 cu. yd. dump truck for final disposal as land fill. The water removed from the sludge by the filter is returned to the stilling well of the clarifier.

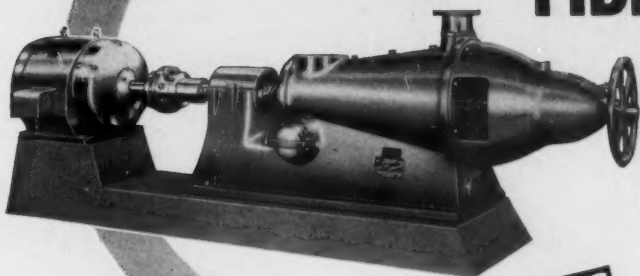
There are some rather unique features in this system, the most important of which is the sludge collection mechanism. Laboratory and pilot plant studies prior to the design of the unit indicated that very high sludge consistencies would be attained in the bottom of the settling tank. As high as 15 per cent solids in the sludge was obtained in pilot plant work. For this reason the collection mechanism built by Hardinge Co. was equipped with an automatic overload raising device. This has proven to be a worthwhile inclusion. High sludge consistencies have been realized and, had not this feature been incorporated, operation of the type required would be difficult if not impossible.

Another feature of the unit is an access tunnel for the sludge pipe running from the sludge pump about 40 feet to the sludge cone. Two gate valves are provided in the sludge line with a high pressure fitting between these valves. This makes cleaning the pipe a simple operation and provides

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6—JOSEPH F. BAIGAS, JR., Resident Engineer for National Council for Stream Improvement, and HERBERT L. O'NEIL, General Superintendent at Falulah, inspect completed sludge collector or thickener for drinking waste disposal. Much credit is due Mr. Baigas for his large part in design of this effective unit.

easy access to the pipe for removal in case of a major clogging problem.

OPERATION

A. Settling Tank

The treatment plant was completed in December 1950 and has been in continuous operation since that date. When the unit began operation, it was found that the suspended solids concentration in the flow from the mill averaged high and was at times so high as to provoke fear of overloading the sludge disposal system. An investigation was carried back into the mill and it was found that leaks in the washing system were the primary cause of this condition. As a result, a close checking system was initiated so that any leaks that developed could be quickly repaired. This method consists of sampling the waste water from the first stage of the washers during each wash. The sample is allowed to stand for 15 minutes in a graduate cylinder and the volume of solids accumulating measured. An abnormally high volume is indicative of a leak which can be quickly remedied with a minimum of loss. After the checking system was initiated and leaks repaired, the solids concentrations to the clarifier were considerably reduced.

The efficiency of operation expressed in suspended solids, volatile suspended solids, settleable solids and 5 day biochemical oxygen demand removal is shown in the table below:

| ppm | Influ- ent | Efflu- ent | % Rem'd | % Rem'd |
|--------------------|---------------|---------------|------------|------------|
| Susp'd solids | 3214 | 1713 | 1501 | 46.7 |
| Vol. susp'd sol. | 1146 | 371 | 775 | 67.4 |
| % Vol. susp'd sol. | 35.6 | 21.7 | | |

Settleable solids

| | | | | |
|-------------------|-----|-----|------|------|
| cc/L after 2 hrs. | 44 | 0.9 | 43.1 | 98. |
| BOD 5-day 20° C. | 950 | 700 | 250 | 26.0 |

Although only 46.7 per cent of the suspended solids are removed, this includes practically all the settleable solids (98 per cent). It may be therefore stated that the settling tank is operating a maximum efficiency. The reason for the seemingly low suspended solids removal is that the bulk of the suspended solids are in a finely divided and non-settleable form.

B. Sludge Disposal

The efficient removal and the dewatering of the sludge accumulation on the bottom of the settling tank is a significant part of the treatment unit. This system carries the major operating cost of the entire installation and consequently a maximum rate of filtration and a minimum operating time are sought at all times.

When operation of the vacuum filter first began, a blowback principle of cake discharge was attempted. The vacuum pump discharge was used for positive pressure. Due to the low volume of air available, this method was not successful. Rather than purchase a compressor to use for the "blowback," a simple arrangement of discharge strings was rigged by the mill maintenance crew. This has since proven to be very satisfactory. The filter is now operated at a speed of 100 seconds per revolution at a vacuum of 15 inches of mercury. The feed sludge averages 9 to 10 per cent solids consistency and the cake is dried to 30 to 34 per cent solids. The cake has a volatile solids content of 50 per cent and varies in thickness from 3/16 to 1/2 inch and the loading rate ranges from 5 to 8 pounds per sq. ft. per hour dry. The filter is operated approximately 5 hours per day, 5 days per week. The 11 cu. yd. dump truck used to transport the sludge to the local city land fill area makes from 2 to 3 trips per day. Each

load carries from 4000 to 4300 pounds of dry sludge or approximately 6 to 6 1/2 tons of wet sludge. One man operates the filter and drives the truck. He is also responsible for the operation of the settling tank and general maintenance of the installation.

Franconia Park Dedicated

More than 1800 members of the Lincoln, N. H., community attended an old-fashioned New England "clambake" staged by the Franconia Paper Co. in dedication of a 20-acre recreational area given to the town of Lincoln by the company. Distinguished guest at the ceremonies was Gov. Sherman Adams, of New Hampshire.

A working example of good community relations, Franconia Park contains a 100 x 175 foot swimming pool, baseball diamond and other playground facilities. A ski slope, parking lot, grandstand and outdoor fireplaces will be added later.



LOBSTER FOR EVERYBODY at Franconia Paper Co.'s clambake recently in Lincoln, N.H., on occasion of dedication of Franconia Park, a 20-acre recreational area given to the town by company. (Picture courtesy of American Forest Products Industries)

Pope Heads Committee For APPA

Francis Pope, director of industrial relations for past 21 years with Mead Corp., has been appointed chairman of the industrial relations committee of American Paper and Pulp Association. In addition, W. A. J. Shaner, labor relations director of Hammermill, fills new post of vice chairman of the committee. Ex-chairman A. S. Anderson of Champion, will remain active on the committee.

NEW SYRACUSE STAFFERS



NEW MEMBERS of professional staff of Dept. of Pulp & Paper Manufacture at State University of New York College of Forestry, Syracuse, are, left to right, DANIEL V. LENT, instructor; DONALD W. LIBBY, project leader on hardwood pulping research that has developed the "chemigroundwood" process; and HAROLD HICKSON, technical assistant assigned to hardwood pulping investigations.

OLIVER

the "CHOICE" Line

When performance under exacting operating conditions . . . where dependability and low operating and maintenance expense are essential, the *choice* of cost-conscious operators is Oliver. Your Oliver Industrial Distributor will be happy to give you all the facts on why this complete line of job-speeding wheel and crawler tractors and matched allied equipment should be *your choice*!

The Oliver Corporation, Industrial Division, 19300 Euclid Ave., Cleveland 17, Ohio.



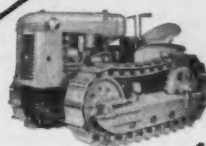
Model "66"—27 h.p. Gas



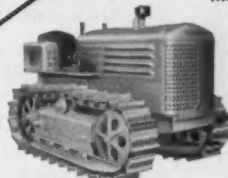
Model "77"—39 h.p. Gas



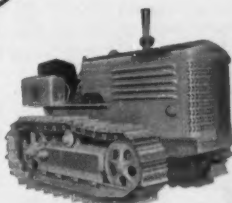
Model "88"—45 h.p.
Gas or Diesel



Model OC-3—22 h.p. Gas



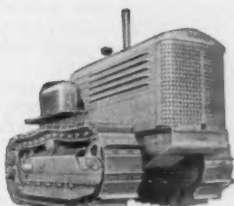
Model A—30.5 h.p.
Gas or Diesel



Model B—38 h.p.
Gas or Diesel



Model FDE—110 h.p. Diesel



Model D—61 h.p.
Gas or Diesel

THE OLIVER CORPORATION



A complete line of industrial wheel and crawler tractors

COMMENT ON STOCK FORMATION CYLINDERS REPLIES TO HOLLIS ARTICLE

Sam T. Weber (shown in picture), assistant sales manager, The Black-Clawson Co., Hamilton, O., has contributed a series of replies to the provocative questionnaire on "Stock Formation on Cylinders," which was published exclusively in PULP & PAPER's September 1951 issue.

Superintendents and engineers in the paperboard making field, particularly, are invited to send in comments or replies. The questionnaire was written by R. Frank Hollis, general superintendent, Alton Box Board Co., Alton, Ill., and we have already published in previous issues several replies.

The Hollis article stirred up a lot of discussion among board men, and at least one superintendent in Michigan commented that it was the most significant article in the board field that he had seen for many years.

Mr. Weber commented that volumes could be written on the questions. He did not attempt to answer them all. He selected certain ones in which he was interested.

Mr. Weber's replies, which follow, refer by number and letter to the question as stated by Mr. Hollis. These questions will be found on page 36 of our Sept. 1951 issue. However, Mr. Weber has made it pretty clear what the questions are. Here are his replies:

3-A—Mold diameters unquestionably originated in the convenience of the draftsman's scale and today's standard increments of 6" are adequately small to cover the range of drainage requirements.

3-B&C—The problem of forming a sheet on a cylinder machine is primarily one of drainage. Drainage requirements, based on the tonnage, speed, stock and type of sheet to be produced, dictate the diameter and number of molds to be utilized on any given machine.

The amount of water which any unit area of mold face will handle per second of immersion time is limited by the drainage characteristics of the stock being formed. Sufficient drainage area must be provided so that this limit is not exceeded.

Thus, after providing at least one mold for each type of stock to be used (for example—top liner, under liner, filler and back liner) additional drainage area must be provided to obtain good formation without exceeding this unit drainage capacity. This area can be obtained by larger mold diameters or by utilizing more molds or both. Use of larger diameter molds to obtain greater area is limited. This limit is reached when the load (i.e.—points of stock) to be picked up by any given mold becomes so great that unacceptable formation results from retarded drainage. When this occurs, the greater drainage area must be obtained by increasing the number of molds.

Large mold diameters must sometimes be employed to offset the increasing effect of centrifugal force at higher speeds.

Therefore, it follows naturally that high speeds with attendant high tonnages, require large diameter molds in sufficient number to give adequate drainage area for the large volumes of water required.

5-A—The small white water ports and piping on old vats were of adequate size to handle the small volumes of white

water used for the low tonnages for which the vats were originally designed. These ports and conduits became undersized when increases in speed and production gave higher water volumes resulting in high velocities and head losses through them.

5-B—In designing the vat flow system, the primary concern is to prevent addition of air to the stock or white water because of its detrimental effect on formation and tendency to cause foam. Mix boxes, screens, head boxes and pumps must be designed and located so as to prevent air entrainment through unnecessary cascading or vortexing. Piping must be designed for proper flow velocities without blind spots which collect unavoidably released air.

White water ports together with the water legs and spill arrangements on the vat ends, must be designed to prevent the entrapment of foam inside the mold. (Exhausters help in its removal.)

5-C—I believe it safe to say that water in a vat behaves as it normally does elsewhere on earth.—fan pump suction, so called, refers to gravity flow to the fan pump below the vat. White water passages and piping should be of ample size to give proper flow velocities to the pump without undue head losses.

5-D—For uniform weight and level across the sheet, the mold head across the cylinder should be as constant as possible. To accomplish this, large openings should be provided in both front and back vat ends for removal of white water from the mold interior with cross connecting pipe having central outlet to the vat pump. Both vat ends should incorporate a spill dam, cross indexed.

Mahler Made Life Member of K-C Pensioners

Ernst Mahler, executive vice president of Kimberly-Clark Corp., who will retire during this year after 40 years of service in the company, has been honored as a life member of the K-C Pensioners Club in a recent ceremony at Kimberly, Wis.

Joe T. Doerfler, mill manager at Kimberly, who was also nearing retirement himself, was master of ceremonies. He and Clifford Williams, manager of the Atlas mill, introduced eight new pensioners. S. F. Shattuck, retired former vice president, also spoke.



Consolidated's Plans For Wisconsin Mills

Plans to reduce pollution of the Wisconsin River at Biron and Whiting, Wis., have been submitted for approval to the state by Consolidated Water Power & Paper Co.

Stanton W. Mead, president of Consolidated, told state agencies his company is submitting plans in advance to make sure these will be acceptable to the state.

The Village of Biron already has submitted plans for an Imhoff tank treatment plant. Consolidated proposes to connect with this. At Whiting the company intends to install its own Imhoff tank plant. Both installations have been engineered by Baxter and Woodman of Crystal Lake, Ill.

The company reported that it hopes to complete installation of the big General American stainless steel evaporator at the Interlake Mill in Appleton about the middle of 1952, but asked the state for a deadline extension to Dec. 31.

U. S. Rayon Capacity Will Be Up 18% in 1953

With more production of rayon wood-pulp planned, or already coming into the market from Southern and Far Western mills, it is significant that the Textile Economics Bureau, Inc., has completed a survey forecasting an 18% increase in U. S. rayon producing capacity by Oct. 1953.

Capacity as of mid-November 1951 totaled 1,444 million lbs. on annual basis. This is a 10½% increase in one year. By July 1952 the rate is expected to be 1,510 million lbs. annually. By Mar. 1953, it is forecast at 1,667 million lbs., and by Oct. 1953, at over 1,700 million lbs. Largest percentage growth is forecast in viscose staple.

Now It's Rayon Or Acetate—Officially

The government's contention that acetate and rayon were one and the same—both rayon—has finally been withdrawn. Both terms are officially recognized now by the Federal Trade Commission, in new trade practice rules designed to eliminate misrepresentation of yarns.

Regenerated cellulose is rayon. Cellulose acetate is acetate. Celanese Corp. of America led the campaign to differentiate in the terms, its products being "acetate."

Swedes Seeking Labrador Mill Site

Swedish interests are seeking concessions in Labrador with a view forest development and pulp manufacture.

Dr. Arthur Seigheim, representing Labrador Timber Utilization Co., is seeking 1,500 square miles containing about 8 million cords, located on both sides of Goose Bay airport. It is proposed to employ 1,500 Finns and Swedes and a similar number of Newfoundlanders. About 200,000 cords of wood would be produced yearly, the Newfoundland government being paid \$5 per cord royalty.

Sulphur



*Thousands of tons
mined daily,
but where does it all go?*

LOOK AROUND YOU and let your glance fall on any object. The chances are 1000 to 1 that sulphur played an important role in its manufacture, either as a component part of the finished product or as a processing element.

Take, for example, the very magazine you are reading. If it's average size it weighs about 1 pound. Made largely of sulphite pulp it required about 0.1 pounds of sulphur in its manufacture.

Multiply this 0.1 pounds of sulphur by the thousands of magazines turned out every day and you'll get some idea of the tremendous tonnage of sulphur required for this single division of industry . . . the sulphite pulp manufacture.

Sulphur has long been called One of the Four Pillars of Industry. Today's need emphasizes this fact more than ever. Sulphur producers are making every effort to get maximum production from existing mines and to develop new sources of sulphur as quickly as possible.



Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N. Y.



Mines: Newgulf and Moss Bluff, Texas

This Lubricant

saved us
\$2,098.16"



"During the seven month period before using LUBRIPLATE No. 130AA in the bearings of our Kraft Mill Lime Kiln, we used a conventional oil of the density recommended. The cost of the lubricant for the period was \$2,134.00. In the seven months that followed, we only used 128 lbs. of LUBRIPLATE No. 130AA for initial filling and replacement at the cost of \$35.84. LUBRIPLATE No. 130AA only requires weekly applications whereas the former lubricant required daily application."

The Brown Company is a progressive organization that is continuously seeking ways to improve their products, their methods and to cut costs. Naturally, when they found LUBRIPLATE No. 130AA, a grease type lubricant with great adhesive qualities, high film strength, and with high heat resistance, they saw the possibility of using it to their advantage in the bearings of their kilns and other equipment.

LUBRIPLATE Lubricants are available from the lightest fluids to the heaviest density greases. They reduce friction, wear and power consumption, they prevent rust and corrosion, they last much longer than ordinary lubricants. There is a LUBRIPLATE Lubricant that is best for every lubrication requirement. Let us send you information about the use of LUBRIPLATE Lubricants in your industry. Write today.

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DEALERS EVERYWHERE—CONSULT YOUR CLASSIFIED TELEPHONE BOOK

LUBRIPLATE

THE MODERN
LUBRICANT

Efficient Quality Control



W. H. "Bill" Schlafge (shown in picture), production manager, International Falls, Minn., Paper Division, Minnesota & Ontario Paper Co., sets down three fundamentals for a successful and efficiently functioning control department. These are essentials,

he told an M & O Men's Club luncheon in Minneapolis:

1. Experienced personnel.
2. Good test facilities, well located.
3. Ability to report results as soon as possible to operations.

Regarding quality control at the Falls, he said:

"Dick Burrock, our chief chemist has been with us since 1944; Don Kincaid, chemical engineer, since '48, after 21 years with Brown and Donnacanna; Joe Yoder, our analytical chemist has been with us since 1943. The head inspector and his assistant have been testing and inspecting 18 years. Inspectors have had 3 to 12 years; testers are carefully selected high school graduates.

"Our control lab is of ample size, is next to the paper mill so tests can be made promptly; test station is humidified and has all necessary instruments. Procedures are based on our experience and recommendations of customers; from mill visits to practically all mills in the Middle West, many in South and East; from correspondence with the Institute of Paper Chemistry, Bureau of Standards and U. S. Forest Products Laboratory."

Prince Axel Still Hopes

Although his original application was rejected by the British Columbia government, Prince Axel of Denmark, chairman of the East Asiatic Co., has appealed from the decision and is still hopeful of acquiring a forest management license on the west coast of Vancouver Island which would provide the necessary timber for a large pulp mill and lumber development.

Pulp Production Costs in Sweden

Production costs of Swedish pulp are discussed in a U.S. Commerce Department publication, *Foreign Commerce Weekly*. It quotes Sweden's *Aftonvärlden* as saying cost of producing a metric ton of pulp is between 300 to 400 crowns (5.18 crowns equals \$1), including depreciation of equipment but excluding pulpwood cost, which averages 350-400 crowns for the quantity needed for a ton of pulp. With 4th quarter export fees ranging from 450-490 crowns, the export price averaging 1,000 crowns above that figure, net profit was figured at about 275 crowns (\$52.25) per ton.

It predicted much higher labor and wood costs in 1952.

KVP Gives 114 Watches for Service

Engraved gold Hamilton watches were given 114 employees of Kalamazoo Vegetable Parchment Co. at a recent dinner at Parchment, Mich., with others getting certificates and checks for shorter service. Christmas decoration at tables for 400 was work of Mrs. Alfred Southon, wife of the president. Many old-time photos dating back to 1906 were reprinted in a souvenir booklet, with pictures of members from different "classes"—the class year being when they joined KVP.

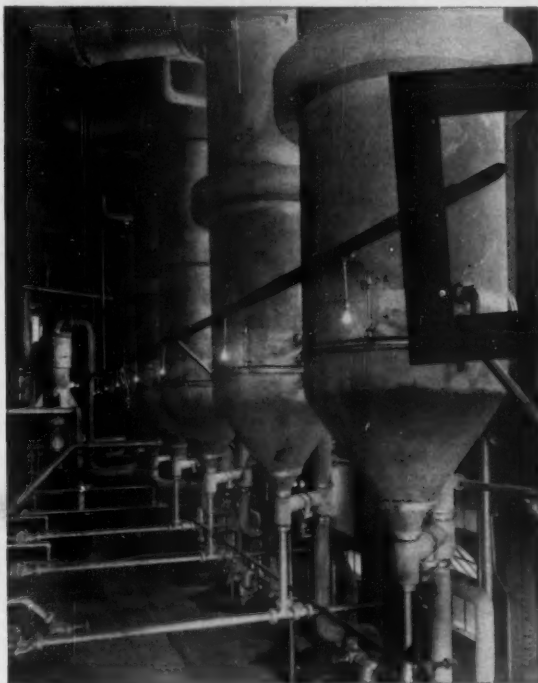
Among the watch winners were Vice Pres. John C. Wood, class of '24; and among others in key positions most likely to be known in industry circles: Art Brockman, Mill 1 power supt.; Neil Van de

Mortel, foreman of parchment cutters, both of '21 class; Harold Ball, machines tour supervisor, '22; Clifford Skinner, converting supt. Ray White, finishing supervisor; Cobe Jager, wax production supervisor; all of '23; Oscar Hunt, parchment supervisor, of '24; Vice Presidents J. B. Kindleberger and Forrest Christy; Mill 2 supt. Les La Liberte; Secretary Harold DeWeerd; Dr. G. F. Des Autels of the lab; Geo. Johnson, Mill 1 supervisor; John Pelong, night tour supervisor; Les Robbins, Mill 2 supervisor, all of class of '25; Jack Arnold, central shop supervisor; Geo. Bishop, head of millwright shop in parchment; Gertrude Budrow, secretary to Mr. De Weerd; W. R. Hess, assistant treasurer; Claus Holtman, purchasing; Al Perlick, stock preparation supervisor; Clyde Van Orman, wax print tour supervisor, all of '25.

New Coal Briquette Made with Sulfite Liquor

Many a family in the Fox River Valley of Wisconsin is burning an improved fuel in space heaters, furnaces, and open fireplaces. The new fuel blocks are the size of a common brick, are practically dustless, produce little smoke or ash, and have about 25% greater heating value than ordinary coal. They are made by compressing small coal particles after mixing these with sulfite liquor which serves as a binder.

Executives of the F. Hurlbut Co. and the Sulfite Pulp Manufacturers' Research League, Appleton, Wis., cooperated to develop this idea. The League scientists had been working on use of sulfite liquor for binder in other types of coal briquettes.



Lower Cost Black Liquor Evaporation

WITH SWENSON L.T.V. EVAPORATORS Years of operation in kraft and soda pulp mills have demonstrated the economy of this equipment — low first cost, low operating cost, and low maintenance.

Swenson engineers with specialized experience in the pulp industry will gladly help you work out evaporation and other process problems . . . call on them while your plans are still in the formative stage.

More than 500,000 lb of evaporation per hour is provided by this multiple-effect Swenson Black Liquor Evaporator

- Evaporators
- Pulp Washers • Deckers • Filters
- Digester Blow Condensers
- Surface Condensers
- Turpentine Condensers • Causticizers

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BUFFALO 2: 610 Jackson Bldg. NEW YORK 7: 30 Church St.
CINCINNATI 2: 729 Fed. SEATTLE 1: 1326 Fifth Ave.
Res. Bank Bldg. TORONTO 2: 47-49 LaPlante Ave.

WHAT'S NEW IN ELECTRICAL ENGINEERING?

Engineers Give Replies

In a letter to PULP & PAPER, Walter Gordon, electrical engineer, who laid out electrical installations for the paper mill built a few years ago by St. Regis at Tacoma, suggested these four questions might bring forth some useful information from electrical engineers of this industry:

1. What is new or interesting in regard to materials used in electrical engineering?
2. How about uses of scotch tape and TW wire as compared to rubber and friction tape and RW wire in your mills?
3. What are some interesting features of new installations from an electrical standpoint in your mill or others?
4. Do you favor centralized controls of an entire department, or do you favor individual controls in visual proximity to its machine? And why?

The questions were sent to a number at random. Here follow three replies:

Richard R. Nelson, who worked on electrical design, construction and start-up of the Kimberly-Clark built and operated mills of LongLac Pulp & Paper Co., Terrace, Ont. (Kraft pulp), and Coosa River Newsprint Co. (Kraft, groundwood and newsprint) at Coosa Pines, Ala., indicated he thought volumes could be written on any of these subjects. These replies by him he termed "incomplete:"

Replies from Wisconsin

"1. Re materials: Since the main limiting factor in capacities of electrical equipment is heat, considerable attention should be given to the use of heat resisting insulations and heat dissipating design. High ambient temperatures caused by heat generating equipment and poor ventilation very often contribute to insulation breakdown.

"2a. Scotch tape for electrical splices is gaining favor because it is clean to handle and makes a less bulky splice than friction or rubber tape. It remains to be seen how it ages, however, under actual field conditions.

"2b. Wire with synthetic insulation properly pulled in conduit has given a good account of itself under conditions prevalent in paper mills. One installation now 10 years old has caused no trouble whatsoever. Wire thus insulated is easily stripped, smaller in diameter, may be conveniently color coded and is highly chemical resistant. It is not approved for conduit installation in sizes larger than #4/0 AWG because of possibility of insulation flowing under weight of conductor when warm.

"3. New mill electrical installations have shown an emphasis on the unit substation type of high voltage power distribution; better mechanical motor protection features against ingress of damaging materials; packaging, standardizing and unitizing of control equipment; and the complicating of control circuits which is apparently required by closer manufac-



RICHARD R. NELSON, (left) an Electrical Development Engineer with Kimberly-Clark Corp., Neenah, Wis., and HARRY F. PACK (right), Electrical Supt., Pacific Mills Ltd., Ocean Falls, B.C., replied to 4-point questionnaire from PULP & PAPER.

turing tolerances and higher production speeds.

"4. Centralized controls have been a feature of our last two new mills. They tend to focus an operator's attention upon the conditions and control of his process. Electrically, they simplify the installations by permitting numbered terminal blocks, color coded control cable and only a few large control conduits instead of many small ones between the panels and the motor control centers. Leaving spare wires in these control cables for test circuits and telephone connections aid in trouble shooting."

Replies from Ontario

T. J. Hughes, chief electrician of Marathon Paper Mills of Canada, Marathon, Ont., replied to only the first three questions as follows:

"1. We are concentrating on TW wire for all our low voltage installations, underground, general wiring and switchboard work.

"2. We are in the process of accumulating data for the installation of a Chlorine plant, the electrical installation will be of a type unfamiliar to Pulp & Paper mill electricians, briefly it is the mechanical rectifier made by the I.T.E. Circuit Breaker Co., from German design turned over as war booty. There is at present one installation in the U.S. and one in Canada.

"3. Centralized controls are preferable if properly designed. Operational controls should be grouped with indicating devices such as ammeters or signal lights to inform the operator of conditions of material flow for which he is responsible. Motor controls for which the electrician is responsible should also be grouped in an air conditioned area accessible to electricians only. Present trend towards packaged control centres not altogether desirable from a maintenance standpoint."

Another Canadian Response

Harry F. Pack, electrical superintendent of Pacific Mills, Ocean Falls, B. C., answered the questions as follows:

"1. The last 20 years the trend of electrical manufacturers has been towards ease of installation rather than simplicity of maintenance. Apart from the very recent "type A Motor Control by CGE, there is still room for considerable improvement in ease of replacement of limestarter coils, etc. This applies to all makes of equipment; all equipment should be made reasonably drip-proof. Under no circumstances should provision be made for top conduit entry which makes waterproofing impossible. Glyptal Red Varnish is a splendid insulant if applied in several coats with 40% thinner; as supplied by manufacturer it will eventually develop fine cracks.

"2. TW wire is used in large quantity here but precautions are very necessary where heat and/or long vertical runs; flow experienced many times under these circumstances causing serious cutages suggest slack left at top of vertical runs and over 30' be avoided. We have had cases of TW under water and weeks at 440 V without leakage.

"3. We are installing a CGE ACAAC commutator motor for the news rewriter drive next month; it's a 50 h.p. uni.

"4. Yes, centralized control with Ammeters marked at full load current and CGE 2NT lock type push button at machine. We use the 2NT p/b throughout for standardization and simplification of spare part stock."

Michigan Supts.

Michigan Superintendents' meeting Thur. Feb. 21, Hotel Harris, Kalamazoo, 6:30 p.m. Will feature a General Electric presentation on plant lighting; a DuPont movie in sound and color: "A Case for Color."

Pulp Importers Elect

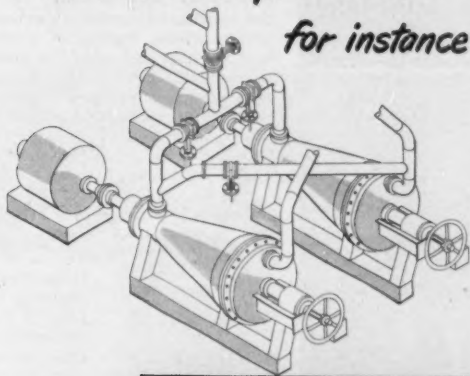
Albert Blattmann, Pagel, Horton & Co., Inc., was named to head the Association of American Wood Pulp Importers during the annual meeting in New York City in December. Other officers for 1952 include: John Westergaard, Castle & Overton, vice president; Harold J. Lanney, Pagel, Horton & Co., Inc., secretary; V. Ramsay, Pulp Sales Corp., treasurer; and Stanford G. Blankinship, Perkins-Goodwin Co., director.

Award for National Gypsum

A Certificate of Management Excellence has been awarded the National Gypsum Co., Buffalo, N. Y., by the American Institute of Management. The company is one of 298 out of an appraisal of 3000 given the award for 1951 operations based on the factors of production efficiency, sales figures, executive evaluation, corporate structure, health of earnings, research and development, etc. The company received an analysis rating of 8750 points out of a possible 10,000.

Can Your Valves Match these Ratings?

...on 4% Pulp Stock
for instance



THE INSTALLATION

On pulp stock lines in Jordan room at Chase Bag Company mill, Chagrin Falls, Ohio.

THE HISTORY

Valves formerly used caused excessively frequent shutdowns for cleanout of clogged lines. Pulp trapped in seats and bonnets; valves inoperative. *Working conditions:* Consistency of stock normally about 4%. Pipe and valve size, 8 in. throughout system. Operation continuous; valves operated infrequently.

Replacements made with Crane Pulp Stock Valves. Now in service more than 5 years, with routine maintenance only, Crane valves have not required a single shutdown. Clogging of lines completely stopped.

The Complete Crane Line Meets All Valve Needs. That's Why,

More Crane Valves Are Used Than Any Other Make!

CRANE VALVES

CRANE CO., General Offices: 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

February 1952

VALVE SERVICE RATINGS

SUITABILITY:

Beats any others used

MAINTENANCE COST:

None - Routine only

CORROSION-RESISTANCE:

No problem here

SERVICE LIFE:

In 5 years - no sign of wear

OPERATING RESULTS:

Shutdowns eliminated

PRICE:

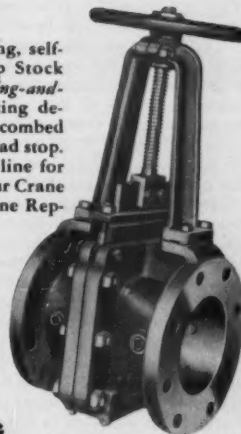
Inline

AVAILABILITY:

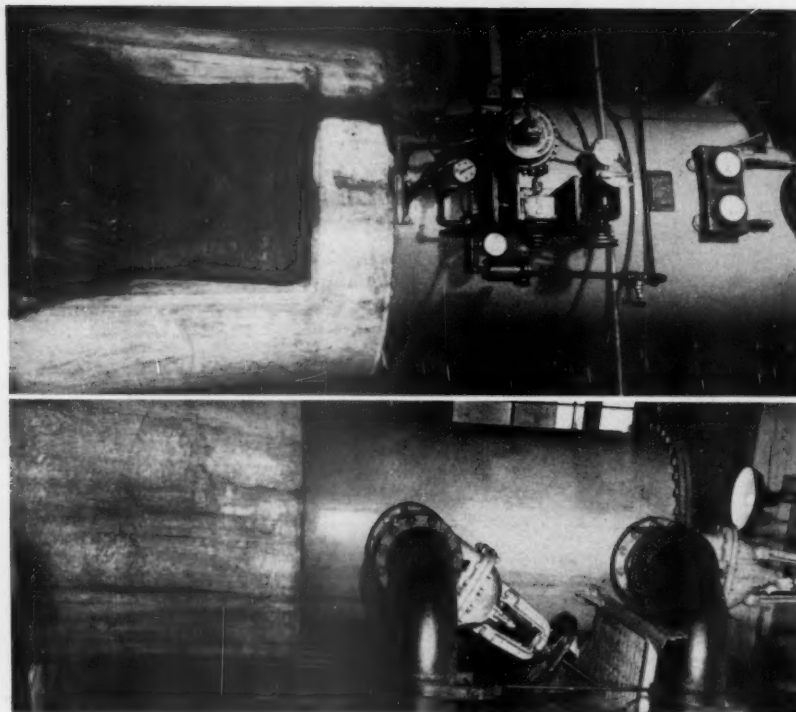
Local Crane Supplier

THE VALVE

Crane No. 1425 non-clogging, self-cleaning, bonnet-less Pulp Stock Valves with patented *combing-and-shearing-action* disc and seating design. Knife-edge disc shears combed fibers to seat easily against lead stop. One of the complete Crane line for pulp and paper mills. See your Crane Catalog or consult your Crane Representative.



BARKER WATER FILTERS IN B. C.



AN ADAMS FILTER—

FILTERING PHASE OF HYDRAULIC LOG BARKING is important. Here are front and rear views of one of the R. P. ADAMS CO., Inc. (Buffalo, N. Y.) filters in hydraulic whole log barking plant of MacMillan & Bloedel Limited at Port

Alberni, B.C., in connection with lumber and market kraft pulp operations there. Even turbid water can be automatically made suitable for the hydraulic log barking pumps, high alloy nozzles and other equipment handling terrific water pressures where abrasion risk might otherwise be serious.

A successful application of water filtration facilities before hydraulic barking pumps has been made at the Port Alberni (B. C.) unbleached sulfate pulp mill of MacMillan & Bloedel, Ltd., where two Hansel ring-type hydraulic barkers have been in operation. While this type of barker does not demand filtering under all circumstances, wherever the water is inclined to be dirty filtering is important.

At Port Alberni the water originates in Sproat Lake and is clear, but in the summer a considerable quantity of slime and algae is present and soon plugs up an ordinary filter medium. The operating pressure on the supply side of the filters is usually about 50 psi but may occasionally drop to 40 psi.

To meet the situation, the company installed two filters manufactured by the R. P. Adams Co., Inc., Buffalo, N. Y. They are installed in parallel and are the Model AWF-116 automatic poro stone (aluminum oxide) filters. Their overall size is 48 inches diameter over the cover flanges and 86½ inches high. They are installed on hollow cylindrical concrete bases of 5 feet height, fitted with 10 inch inlet and outlet flanges.

These units are designed to provide continuous filtration with automatic backwashing of solids to the sewer. Each filter has 116 square feet of filter surface distributed over 26 filter tubes of 4¼ inches O. D. by 3 inches I. D. by 4 feet long. Each tube is provided with a separate backwashing mechanism actuated by an automatic control.

The cleaning operation is arranged on a time cycle adjustable for overall backwash cycle of from 5 minutes to 34 minutes, with backwash time per tube also adjustable up to 14 seconds, all to allow for a variation in the character of raw water supplied. From 2 to 6 percent of the filtered water is used for backwash purposes.

A maximum flow of 1500 G.P.M. (U.S.) is required for the hydraulic barkers.

The degree of separation is dependent on the fineness of the tubes installed. The installation at Port Alberni is designed to remove all suspended matter over 40 microns (0.0016 inches) A pressure differential of about 2 psi is developed when filtering 1000 to 1200 G.P.M.

A small 5 h.p. compressor is provided to operate the automatic backwash valves. To overcome the pressure pulsation resulting from the backwash operation, an air charged surge tank is provided on the outlet line from the filters.

Red Rock Mill To Make Newsprint

Brompton Pulp & Paper Co.'s mill at Red Rock, Ontario, brought in as a kraft producer in 1945, will be expanded and newsprint is to be added by 1954. A high-speed new kraft machine will increase kraft pulp capacity, including hardwood semi-chemical pulp, and the existing kraft machine will be converted to newsprint. Present capacity, 80,000 tons of kraft board and 20,000 tons surplus pulps, will be increased to 150,000 kraft board and 60,000 newsprint per year.

Provincial Expansion

Provincial Paper Ltd., subsidiary of Abitibi, has initiated a multi-million dollar expansion at Thorold, Ont., which includes the doubling in number of existing two paper machines; tripling of production of book, writing and other fine papers, construction of Canada's largest waste-paper pulp plant. Completion of the first phase is scheduled the coming summer. This will raise daily production of paper from 55 to 135 tons, with a 136-inch machine. The fourth machine will be 120 inches.

Hamersley Begins 75th Year



The 75th anniversary of The Hamersley Manufacturing Co., Garfield, N. J., will be celebrated during 1952, according to word from Arnold G. Hamersley (shown in picture) executive vice president. The late Siegfried Hamersley,

founder, is credited with being inventor of waxed paper, and the company which bears his name is still a leading producer of glassine, greaseproof, laminated and waxed papers.

The development of waxed paper is said to have followed the experience of Mr. Hamersley in dipping paper in candle wax for wrapping fish in New York's old Fulton fish market. This proved so satisfactory he built machinery to coat the paper. In 1903, with the company in charge of his sons, Carl S. and George W. Hamersley, it was said to be the first mill in this country to manufacture greaseproof paper.

Lowell Scholarship

McLaurin-Jones Co., Brookfield, Mass., has established a \$500 annual scholarship for a student in the paper engineering course at Lowell Textile Institute, Martin J. Lydon, Institute president, announces. Preference will be given employees of McLaurin-Jones and their sons, and secondly to graduates of Brookfield and Ware high schools.

Niagara Falls Meeting

The Niagara branch of the Canadian industry's Technical Section and Empire State TAPPI section plan a joint meeting June 19-21 at the Gen. Brock hotel, Niagara Falls, Ont., June 19-21. J. S. Reichert of DuPont is chairman.

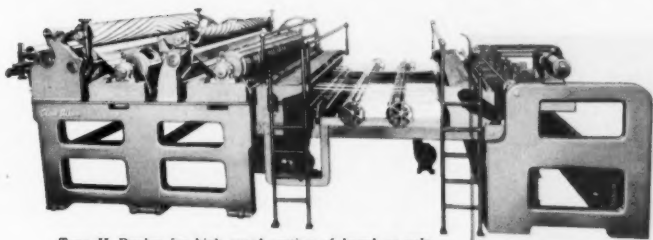
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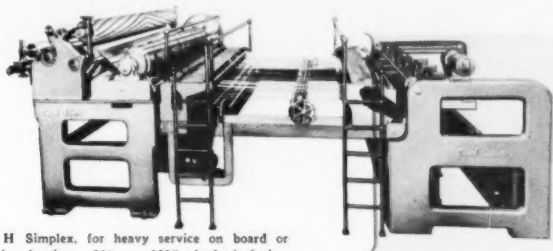
You can select from the Clark-Aiken Complete Line a cutter exactly suited to your sheeting needs equipped with a layboy *exactly* suited to requirements and the conditions existing in your mill.

In addition, you can enjoy the advantages of such cost-cutting, quality-improving Clark-Aiken features as: oversize pinch roll and oversize sand-blasted draw roll for positive feed; lifetime tapes for long wear and freedom from stretch; scale splitter and jogger alignment for quick, accurate sheet alignment without use of measuring tape; patented self-sharpening, scissors-action "Spiral Shear" cylinder knife for clean, sharp cutting on any stock, and many others.

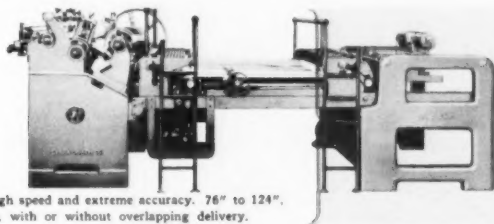
Clark-Aiken engineers will gladly help you make the proper selection. Write, or wire or phone The Clark-Aiken Company, Lee, Massachusetts.



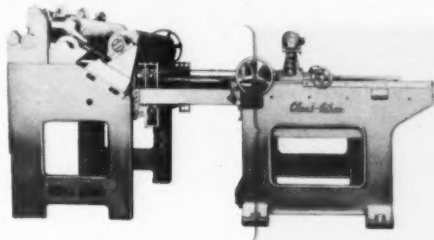
Type H Duplex for high speed cutting of board or pulp and multiple sheeting. 76" to 220", both inclusive, with or without overlapping delivery.



Type H Simplex, for heavy service on board or multiple sheeting. 76" to 220", both inclusive, with or without overlapping delivery.

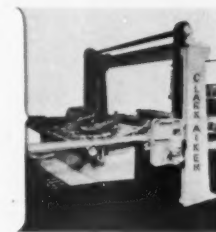
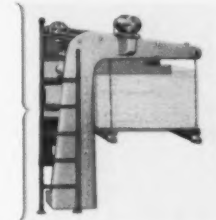


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Type D Economy for finishing room service and use of converters. 36" to 100", both inclusive. Available with or without overlapping delivery.

Overhanging Type Layboy for end or side pile removal, greater pile height, fast skid removal and replacement and fast return.



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MACHINE TENDER Munchausen Stories

Perhaps the proximity of April the First makes this Machine-tender Munchausen story rather appropriate. This one is a contribution by Arthur T. Yoder (shown in picture), who is paper mill superintendent of National Container Corp. of Michigan at Ontonagon, Mich.

Mr. Yoder will be 69 on May 1. We saw him a few months ago and he said his father, Isaac, who owned and operated a bogus wrap mill at Bartow, Pa., for 50 years, was still alive at 90. That mill is now idle. Arthur Yoder, although he has been at the Ontonagon mill on Lake Superior for 26 years, got around quite a bit in his younger days. He made paper at mills in Mosinee, Wis., Groveton, N. H., Williamsburg, West Va., and Sartell, Minn.

We are very pleased to send Mr. Yoder our usual honorarium.

Any mill man or salesman who has a story for this corner is invited to send it in. Just tell your story in a letter, and send it to: PULP & PAPER, 71 Columbia St., Seattle 4, Wash.

Here's Mr. Yoder's story:

"As it was told to me by an old timer, and it is supposed to be true, a tramp machinetender blew into town, broke and out of a job. He heard on his arrival that there was a machinetender job open at the mill.

"But it was his tough luck to arrive just too late. The Superintendent told him the vacancy had been filled in the mill, by promoting the young backtender.

"The hobo machinetender, however, waited around for the noon whistle to blow, and then he proceeded to the machine room. He introduced himself to the new young machinetender, who had the tough luck to make a good supply of broke on his first morning on the job. The hobo smiled sympathetically. He then rolled up his sleeves and started to look over the wet end. By this time the new young machinetender's curiosity was aroused, and so he inquired of the hobo what he had in mind.

"The hobo said he had been hired by the superintendent to run the machine and that the young machinetender was not making good and would be demoted. However, the hobo said he didn't want the job as he had a better one offered him in the next town.

"If you will give me ten bucks I'll get out of town and you can keep your job," the hobo then told the young man.

"The hobo got the ten, and he left with a cheery wave of his hand, wishing the young machinetender good luck!"

Heads Cellophane Research

Appointment of Edward Hartshorne as manager of the Research and Development Department, Olin Cellophane Division, Olin Industries, Inc., at New Haven, Conn., was announced by N. H. Collisson, general manager of the Olin Cellophane Division. A graduate of Massachusetts Institute of Technology, Mr. Hartshorne has been with Olin Industries since 1934.



Personals

NORTHEAST NOTES

ANDREW M. MCBURNEY has been promoted from eastern sales to sales manager of Oxford Paper Co., New York. Graduate of Yale, he worked in the Maine and Ohio Oxford mills.

CHARLES J. SLICKEN has been promoted to president and treasurer of Charles F. Hubbs & Co. division, Hubbs Corp., New York, succeeding RICHARD C. KETTLES, Jr., now president of Hubbs Corp.

MICHAEL MILTON, founder and chairman of Milton Paper Co., was honored at a 35th anniversary dinner of the company attended by 150 printers, mill men, etc., where he received a plaque from employees and a silver platter from HENRY SAVAGE, International Paper. WALLY GRAVES of I P, was toastmaster.

IRVING ESLEECK, president of Esleeck Mfg. Co., fine paper manufacturers of Turners Falls, Mass., died Dec. 6.

LLOYD E. KELLY, of New York, manager of eastern sales for the Pigments Department, Du Pont Co., retires Feb. 1 after 30 years with the company. He was to be succeeded by WALTER J. BEASTEN, a pigments salesman in the Philadelphia sales office.

Meeting with the Paley Commission in Washington in December were: J. L. MADDEN, Hollingsworth & Whitney; L. J. KUGELMAN, International Paper Co.; CLYDE S. MARTIN, Weyerhaeuser Timber Co.; DEVERE DIERKS, Dierks Lumber & Coal Co.; A. J. GIASSOW, Brooks-Scanlon Co.; and GEORGE DEAN, state forester of Virginia. Industry men decried fear of a national shortage of timber.

JOHN W. BROWN, general sales manager for National Gypsum Co., has been given increased responsibilities and is assisted by WADE W. HILDINGER. DEAN D. CRANDELL, vice president previously in charge of general sales, will concentrate on

export, industrial and product promotion. CARL J. BERGENDAHL has left Pagel, Horton & Co., Inc., New York wood pulp importers, to become manager director of Hafrestroms A. B., pulp and paper mills, Haverud, Sweden, according to A. J. PAGEL, president of Pagel, Horton.

SAMUEL KIPNIS, president of National Container Corp., will lead the drive in the paper industry for funds for the National Foundation for Infantile Paralysis in Greater New York.

GEN. E. R. QUESADA, is new vice president and director of Olin Industries. He is retired lieutenant general of the air force.

L. F. VAN KLECK, traffic manager for Brown Co., Berlin, N. H., has been honored by reelection as a director of the National Industrial Traffic League.

EDWARD MCSWEENEY, treasurer of Perkins-Goodwin Co., will serve as chairman of the paper and graphic arts division of the 1952 Heart Fund drive in New York City.

GEORGE J. MULLER, former executive v. p. of Morningstar, Nicol, Inc., has been elected president of the company, with his former post being taken by MURRAY STEMPEL.

A. G. DREIS, former technical service engineer for Hercules Powder Co., working out of Holyoke, Mass., has been named director of new products development at P. H. Glatfelter Co., Spring Grove, Pa., and will organize this new department for the company.

LEWIS R. SANDERSON, with more than 38 years' experience behind him in the gypsum industry, was elevated to the presidency of National Gypsum Co. in December. He has been with National Gypsum since 1936 when this company purchased the New York plant of Atlantic Gypsum Co., of which he was manager.

BENJAMIN D. ROGERS, formerly director of personnel and a director of Bird & Son, Inc., East Walpole, Mass., died of a heart attack Dec. 27. On Dec. 30, Creighton Hill, who had succeeded Mr. Rogers in 1949, died suddenly of a cerebral hemorrhage. Mr. Rogers would have observed his 45th anniversary with Bird & Son in Jan. 1952.

JAMES F. LEVENS, President, Geo. W. Millar & Co., Inc., announces that Edward J. Sullivan joined their sales staff. Mr. Sullivan has been chief of the Fine and Printing Paper Section, Pulp, Paper & Paperboard Division of the National Production Authority in Washington.

J. D. BOWDEN, sales personnel manager, is now assistant to the vice president in charge of sales, of Scott Paper Co. J. B. Kirkpatrick has been appointed New England divisional manager, with headquarters in Boston. L. H. Wight will move to Chester, Pa., as sales personnel manager.

National Gypsum Co., Buffalo, N.Y., has appointed FRANK D. DAVIS as public relations manager to fill position vacated by DAVID A. WHITE who is now on active duty with the U.S. Air Force, according to DEAN D. CRANDELL, vice president in charge of sales for the company. G. WILLING PEPPER, vice president, Scott Paper Co., has been elected director of United States Plywood Corp.

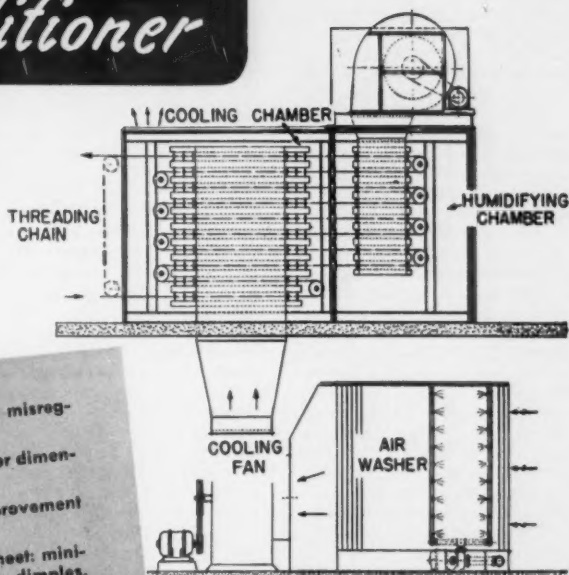
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1. Higher moisture content minimizes misregister in multi-color printing.
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3. A more flexible sheet. Striking improvement in folding quality.
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5. Increased weight and tonnage from additional water.
6. Better printability.
7. Nearly complete elimination of curling.
8. Greatly minimized development of static.
9. Uniformly cool paper which resists subsequent moisture changes.
10. User satisfaction. Marked reduction in paper customer complaints.



The Ross Cycle Conditioner adds any reasonable moisture content, uniformly and controllably, on webs up to 200 inches wide at speeds up to 2000 ft. per minute. It can be used as a separate operation or in synchronism with other operations. It will pay you to investigate the economic advantages of installing this conditioning equipment.



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February 1952

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A HYDRAULIC BARKER PLANT

WATER FILTRATION IS IMPORTANT IN PROCESS

Water used under high pressures for hydraulically removing bark from logs has objectively indicated the advantages of freeing such water of solids before reaching the multi-stage barker pumps. Dirt in the system results in wear of pump components and nozzle plate, the extent of erosion dependent largely upon the amount of foreign solids present in the water as it goes through pump and nozzle. Consequently several means have in the past been used to provide water in quantity for hydraulic barkers free from dirt, sand and gravel. Among these are (1) screening of solids from the water, (2) filtering water for the barking processes, and (3) obtaining water from municipal water systems. At the new hydraulic barking plant of Columbia River Paper Mills, Vancouver, Wash., solids are removed from the water by Nichols Engineering & Research Corp. Vortraps such as are used for removing dirt from stock ahead of the machines.

Main processing units in this barking plant are a 20 ft. Bellingham-type Sumner hydraulic barker, 112 in. Sumner chipper, and an 8 ft. band mill for reducing logs to sizes suitable for the chipper.

George Miller, resident manager of Columbia River Paper Mills, says the hydraulic barker plant fulfills the expectations determined by studies made prior to starting construction of the unit.

The five Nichols Vortraps were installed just ahead of the 8-stage Bingham barker pump to remove solids. A 30 lb. drop in pressure across the line—this from a 40 lb. initial pressure—is maintained, thus resulting in sufficient centrifugal action to separate solids from the water, according to Thomas Parks, plant engineer.

After several months operation there was no indication of wear on the nozzle plate, where full 1300 p.s.i. operating pressure is maintained. This plate, made of heat-treated stainless steel has a row of



NILS G. TEREN (left), President and Gen. Mgr., Columbia River Paper Mills, whose headquarters are in Portland, Ore., and **GEORGE E. MILLER** (right), Resident Mgr. at the mill, Vancouver, Wash.



33 holes 3/16 in. in diameter. Water jets through these holes at 1300 to 1350 lbs. pressure, and totals about 950 gallons per minute, to blast bark off the logs. As Mr. Parks says "If abrasives were getting through the system the nozzle plate holes would be cutting out."

Dirt present in the system would also result in wear on various pump components such as shaft, impellers, casing and sealing rings.

The Columbia River Paper Mills hydraulic barking plant went into production just a year ago as a result of management's determination to obtain higher utilization of the raw-product wood.

Previously logs were broken down into cant form at the company's adjacent lumber division and transported to pulp mill wood room where the bark was mechanically removed.

The hydraulic barking plant, housed in a whole new structure fronting on the Columbia river, is complete with supplementary wood-processing and handling equipment. Wood leaving the barking plant in forms of chips goes to a new surge bin and subsequently on to the

shaker screens, thus linking into the chip flow of the former system which is now maintained as a stand-by emergency unit.

The new plant was designed by Carl N. Anderson, Portland, Ore., consulting engineer.

Logs move directly from the Columbia river into the plant via a log haul. Inside the barker building, the long logs are cut to suitable lengths of 20 ft. or less by a Sumner 7 ft. circular air-activated swing saw. Logs too large to cut off with this saw may be finished with a small one-man P.M. electric chain saw, or the cut can be completely handled by an 8 ft. Titan chain saw installed for this purpose.

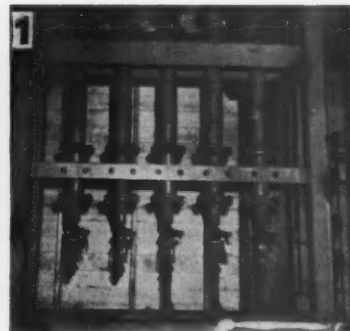
The Bellingham-type barker, mounted on independently supported steel foundation, was altered by reversing the nozzle support frame—hinging it at infeed side rather than output side. This change was made, explains Mr. Anderson, to prevent possible breakage of nozzle or frame as a result of moving a log into the barking position with the nozzle in lowered position. Now a log coming from infeed chains would "shoulder" the nozzle upwards rather than roll onto or against it. Trunions on which the log rotates in the barker are both variable in speed and reversing. A Westinghouse motor, putting out 15-20-30-40 h.p. at the four respective speeds, drives through a Sumner gear set to power trunions.

Freed bark is waterborne to a vibrating screen and transported to steam plant for fuel.

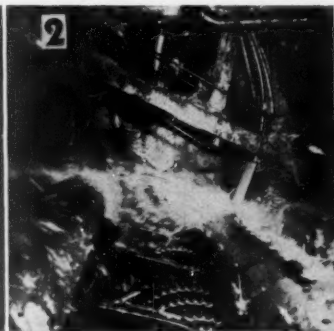
A well under the bleach plant is used as source of water for the hydraulic barking. A Bingham 3-stage deep well pump, is powered by 100 h.p. General Electric vertical motor. The barker pump, an 8-stage, 6 in. suction Bingham is powered by 900 h.p. Elliott electric motor. From this pump the water goes to barker in 6 in. line at 1300-1350 p.s.i. at 950 g.p.m. This pump also provides water under

AT COLUMBIA RIVER PAPER MILLS:

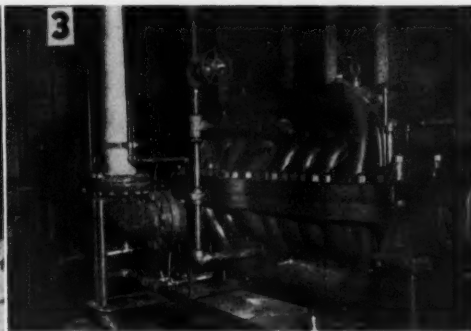
1. Cleaning of water of dirt solids ahead of barker pump is important. Here it is done with this bank of Nichols Vortraps in the Vancouver, Wash., mill.



2. HYDRAULIC BARKER—Sumner "Bellingham-type"—is shown in action in this PULP & PAPER view taken through heavy plate glass window in control room after 1300 p.s.i. water pressure had been cut down to make picture possible. Jet of water shows.

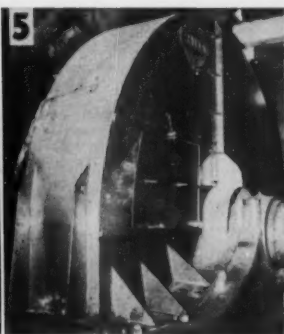


3. BINGHAM 8-STAGE PUMP, direct-powered by 900 H.P. ELLIOTT CO Fabri-Steel Motor provides 950 g.p.m. at 1300-1350 p.s.i. for removing bark from logs and also furnishes another line with water at 800 p.s.i. for lateral travel of nozzle carriage.

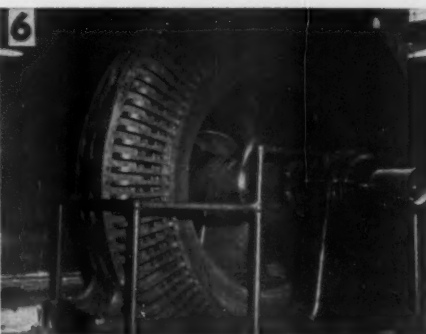




4. BARKED LOGS ENROUTE TO CHIPPER are cleaned of loose material by spray jets.



5. SUMNER 112-inch Chipper at COLUMBIA RIVER MILLS uses six knives.



6. WESTINGHOUSE 1,000 h.p. synchronous motor is direct connected to chipper.

pressure for moving the nozzle carriage back and forth via an hydraulic cylinder. The take-off is between 5th and 6th stages at about 825 p.s.i.

Barked logs pass a double set of curtains, made up of hinged $\frac{1}{4}$ in. steel plates and belting, to transfer-storage deck behind the barker. Here the logs are inspected and any remaining bark removed. Logs enter a conveyor leading through a water-spray shower for final cleaning, going to the chipper, or to break-down headrig if too large.

The headrig for reducing these logs into sizes for chipping is a Klamath Machine & Locomotive Works 8 ft. band, flat-belt powered by 200 h.p. wound-rotor type G.E. motor. A Filer and Stowel 12" x 18" vertical twin steam engine provides power.

A conveyor leads to a 112 in. Sumner 6-knife chipper directly powered by 1000 h.p. Westinghouse synchronous motor. The chipper has a simple lowering hinged steel apron in the feed chute and a steam cylinder for lowering the logs or cant. The chipper has capacity for 27 in. logs.

Chips are transported to a belt by an ESCO conveyor made up of manganese chain and 7 in. by 30 in. steel flights on 3 to 4 ft. spacing. A rubber belt receives the chips, transporting them directly to the new surge bin, large enough to store $2\frac{1}{2}$ cooks. This surge bin, 30 ft. wide, 40 ft. long and 40 ft. high (including tapered hopper section), keeps two lowhead 6 ft. by 16 ft. Allis-Chalmers vibrating screens supplied with chips. The long conveyor belt leading from chipper room to surge bin rides on Chain Belt troughing idlers.

The plant's electric system is supplied by a 11000 volt underground cable. Secondary circuits are also underground. The sawmill and hydraulic barker plant are supplied with 2300 volt current by a 5000 k.v.a. outdoor substation, with the 2300 volt power converted to 440 volt for smaller motors by a 1000 k.v.a. transformer bank. E. V. Young, plant electrical engineer, points out that the chipper motor acts as a shock absorber for the power system, utilizing this motor for power factor correction throughout the Vancouver plant.

Man uses paper more than any other commodity except water. You are in an indispensable industry.



AT COLUMBIA RIVER PAPER MILLS:

7—A 42 INCH BELT CONVEYOR with troughing idlers supplied by CHAIN BELT CO., Milwaukee, conveys chips to surge bin. This is the loading end of the conveyor and the idlers are spaced much closer here than are those at the discharge end. Rubber belt is by U. S. Rubber.

Camas Speeds Up Four Machines

Four of the 15 paper machines at Crown Zellerbach Corp.'s Camas, Wash. plant are to be rebuilt and speeded up, according to Frank A. Drumb, resident manager. Equipment for this project is ordered. With its arrival the conversion work starts.

Machines concerned are No. 3, running sulfite tissue, No. 9, making napkins and toweling, No. 11, toilet tissue machine, and No. 14, on facial tissue. Production of the four machines will be increased by about 50 tons per day. Among prime changes are installation of new electrical-mechanical drives, more suction presses, larger pumps, and additional dryers.

Port Alberni May Double Production

Doubling of the MacMillan & Bloedel's unbleached kraft mill at Port Alberni, B. C., may be one of the early results of their recent merger. Port Alberni has carried on extensive surveys in connection with salvage logging with a view to providing raw material in the event of stepping up the 200 tons a day production. The MacMillan organization owned the Harmac mill on the east coast of Vancouver Island and MacMillan & Bloedel are now proceeding with the building of a second unit there.

Rayonier Markets Waste Liquor Products

Rayonier's by-product plant producing concentrated sulfite liquor at Hoquiam, Wash., has operated steadily since early April, George A. Holt, acting resident manager, announces. Both production and sales during the last five months have increased.

From the time the \$100,000 plant was built in 1948 until a year ago, only 300,000 gallons were produced and sold, and an additional 300,000 gallons have been produced and sold during the past 12 months (most during the past five months).

Customers are located from Vancouver, B. C. to Los Angeles, Calif., and as far east as Illinois. Deliveries are made by railroad tank cars which the company has on lease.

Part of the increased demand has been sold to customers who use it as raw material for the manufacture of linoleum paste. But most of the increase has been sold in Southwestern Washington to cities and counties for a dust palliative for roads.

The by-product plant was built by Rayonier as a pilot plant to test and develop new markets. Both process and plant design were developed by the Company's Research and Central Engineering Divisions and utilized newest equipment and materials.

The equipment is designed to evaporate the waste liquor from a volume of six gallons down to one gallon of concentrate. The crude product is then chemically treated and various stabilizers are added to give the concentrate more stability.

Victoria Meeting Sept. 25-27

An almost full calendar at the Hotel Empress, Victoria, B.C., has thrown a monkey wrench into the plans for a three-way convention there this spring—with Pacific Coast Superintendents and TAPPI joining with Canada's Western Technical Branch.

As we went to press, sponsors were agreed on Sept. 25-27 as new dates for the conclave. Only earlier Empress dates available were June 19-21, which were declined; for some delegates would want to attend the Superintendents National at Detroit June 17-19.

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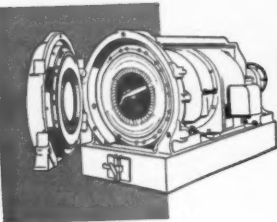
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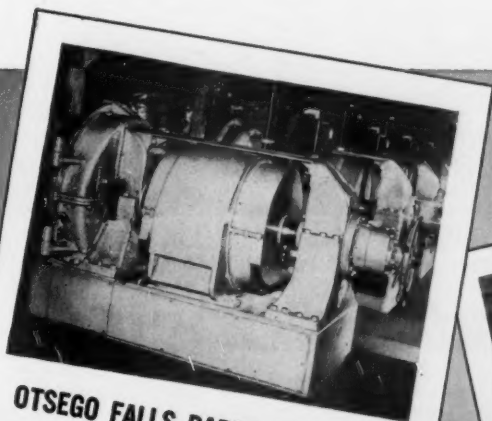
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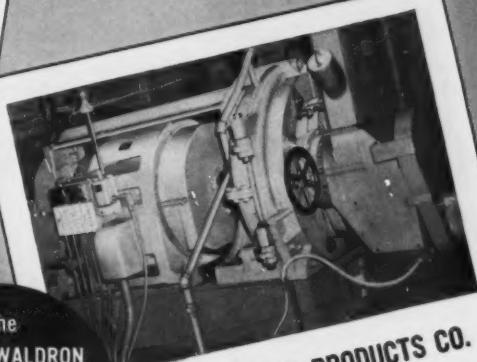


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All across the North American continent, north to south and east to west, the industry is improving woodlands techniques and introducing large scale conservation, reforestation and mechanization.

CROSSETT'S FOREST POLICIES

A candid, vivid portrayal of the integration of forest management with industrial production was made by Peter F. Watzek, president, Crossett Industries, including Crossett Paper Mills, at Crossett, Ark., in an address to the Society of American Foresters in Biloxi, Miss., during December.

The history of the Crossett lands in Arkansas, starting with initial acquisition in 1898, operation of the sawmill in 1901 in a wilderness untouched by railroad, which led to integration of a variety of wood industries, was reviewed. He recalled that when in 1922 the company learned uncontrolled fires would cost \$4,000,000 in the next 30 years, employment of foresters and formation of a policy according to recommendations of Yale University authorities, company foresters, and state and U. S. officials, were quickly put into effect.

From the current year on, Mr. Watzek stated, the forest is to be managed for both pine and hardwood, which is an epochal statement, marking as it does the official divergence by a big Southern company from a woods policy of production for "pine."

Discussing the factors involved in this, Mr. Watzek said:

"We have at last realized that we have been ignoring the true hardwood sites scattered through our area which produce nearly pure stands. Very frankly, we would rather have pine on these lands but we can't have everything in this world. Our hardwood management program thus dates from this year and applies strictly to hardwood sites. I hope you will invite me back in 1981 after we have had 30 years of experience in this field so that I may give you a report.

"Our guiding principles are specialization and decentralization.

Specialization in Forestry

"Specialization we secure through the operation of a Forestry Division which is in complete charge of looking after our lands, growing trees on them and then harvesting these trees, as well as purchasing wood and logs from other lands. Actually, the division even controls the operation of our manufacturing plants for it recommends, in conjunction with our consulting forester, the cutting budgets which our board of directors has regularly approved almost without change.

"This division is run by a forestry division manager. He has two foresters and a number of other men as assistants in Crossett but the real work is done on our 11 forest districts where we secure our decentralization. These districts are operated by two foresters who have wide latitude in the management and harvesting. These foresters have available at any time the assistance of a group of specialists in the central office such as a logging engineer, photogrammetric engineer, surveyor and transportation superintendent. Each district also has a highly trained specialist in timber marking.

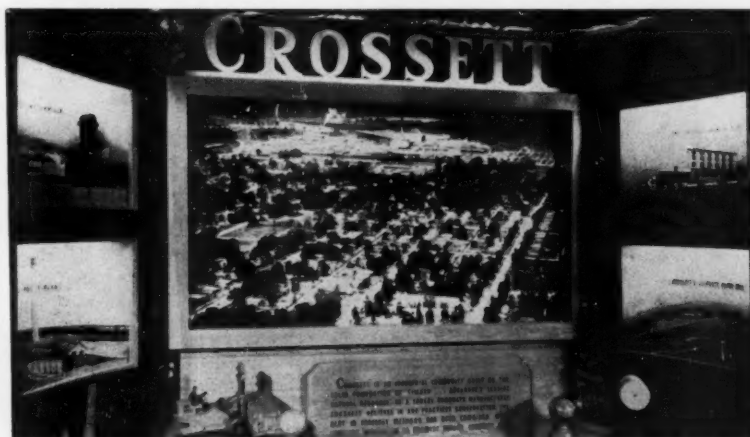
Decentralization of Operations

"Decentralization is a result of this plan to the point that we do not have our own management radio system. We do bring these foresters into Crossett for half a day a week to attend a briefing session and we, of course, have phone lines into the headquarters. Our radio is, however, limited entirely to the state's fire protection frequency on which we have a number of sets.

"Each district forester has an opportunity each year to decide not only what special work he will do to increase growth but also what acreage he will cut. Once our company-wide budgets are decided upon, each district forester sits down with the division manager to work out his own budget.

"You can see that we go all the way in turning a forest over to the district forester. The responsibility is squarely on his shoulders for looking after his land lines, watching for trespass and protecting from fire. He grows his own trees and has the right to select those which he will harvest. Our woods production is by contractors and the forester selects the man in whom he has confidence to work in his forest.

"Our basic aim is to maintain a 10-year cutting cycle and sufficient time has elapsed so that some of our land has now been cut for the third time. Originally, this was an improvement cut simply leaving the best and taking the worst and to some extent that principle still applies. Our foresters now call it a combination improvement and harvest selection al-



THE CROSSETT INDUSTRIES, the why and the wherefore of the comments published on these pages by President Peter F. Watzek, are illustrated in this exhibit. The town they created, the mills in the background and surrounding woods, are shown in central photograph. At top left is a picture of the sawmills; lower left, the power plant; upper right, the chemical plant; lower right, the kraft paper mill. On the wooden panel below is this statement: "Crossett is an industrial community built on the solid foundation of timber . . . Arkansas's leading natural resource. As a forest products manufacturer, Crossett believes in, and practices, conservation. The best in forestry methods has been combined with complete utilization to promise future security for the community."



One of two 90' dia. Dorrc Hydro-Treaters which treat 25 MGD of process water for a large pulp mill.

Pulp mill water supply problems solved !

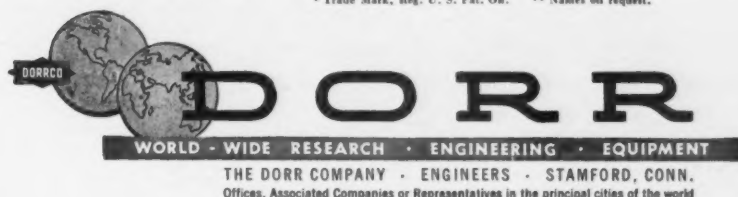
with **DORRCO HYDRO TREATORS***

As every pulp man knows, a constant supply of clear process water is a key ingredient in the production cycle. Here's the kind of results that four Pulp Mills ** are currently getting from Dorrc Hydro-Treaters. We believe they speak for themselves.

| | PLANT A | PLANT B | PLANT C | PLANT D |
|-----------------------|---------------|-------------|---------------|-------------------|
| OPERATION | COLOR REMOVAL | COAGULATION | COLOR REMOVAL | TURBIDITY REMOVAL |
| NO. AND SIZE OF UNITS | 2-80' DIA. | 1-75' DIA. | 2-100' DIA. | 2-90' DIA. |
| CAP. PER UNIT-MGD | 10.0 | 6.5 | 10.0 | 12.6 |
| AVG. EFF. PPM | 3-5 (TURB) | 3 (TURB) | 10 (COLOR) | TRACE |
| SLUDGE % SOLIDS | --- | 21.6 | --- | --- |

If you are investigating high-rate, up-flow type units for your process water supply, get *all* the facts before deciding. A new 32 page bulletin in color, #9041, describes the Hydro-Treater in detail. For your free copy write to The Dorr Company, Stamford, Conn., or in Canada to The Dorr Company, 80 Richmond Street West, Toronto 1.

* Trade Mark, Reg. U. S. Pat. Off. ** Names on request.





A PANORAMIC VIEW OF THE CROSSETT INDUSTRIES taken by a PULP & PAPER editor. The low white building at left bears the name "CROSSETT RESEARCH." Sawmills take up the major areas. The growing Crossett Paper Mills on right were shown at a period in recent expansion.

though it looks to me as if having cut the worst we simply go back each time to take the next worst.

"Our timber marking is today based on our sawlog budgets for both pine and hardwood. Sawlogs are first taken from these trees down to minimum diameters which at present are 8 in. for pine and 10 in. for hardwood. Utilization standards change with changing machinery and changing markets. We have maintained as a control for our planning the original log specifications and we can thus see how much our log utilization has improved. We feel we can now fairly accurately forecast the average log cutting practices at the start of each new 10-year period and we find that the degree of utilization for sawlogs is now 15% better than it was originally.

"A pine pulpwood cut is then made from tops, from damaged trees and perhaps from a very little silvicultural thinning. Most of our pulpwood, 80% of it at present, is purchased on the outside market. We could take this pulpwood from our own land but as I have already said, you don't get fully stocked stands by cutting all the growth. And also, we could take that pulpwood out of our sawmill but there is no point in doing so when we can make money from that wood converted into lumber and can buy wood elsewhere in pulpwood size and make money on that, too.

"Next comes a chemical wood cut from this same stand up to the maximum consumption capacity of our chemical plant. It is aimed to control insofar as possible small, undesirable hardwoods and to utilize larger hardwoods which are of below sawlog quality. Regrettably, last comes a cull removal program set up to operate portable mills, sell unusable species, etc.

Planting

"While nature does most all of our seedling for us, we have carried on a planting program for some years. It is concentrated on the bare farm lands we have purchased and on some of the open prairie lands found in our area. Using a number of planting machines and a good bit of hand planting, we have covered the ground pretty fast and are just about through. I'm afraid we will not be much of a customer for our state nursery in years to come.

"Let me also mention the use of fire in securing reproduction of shortleaf. We have been on the fence for some years doing no more than experimental burning at selected locations. Many of our results are remarkably good and, of course, some are poor. Gradually, we are climbing down

off the fence and each year sees more acres treated and better and better results as we learn more about fire.

"We are trying to keep close records on the type of cutting practices followed in production of pulpwood we buy from other lands. In spite of all that can be done, some poor management is involved though it is surprisingly limited. In any case, we calculate the actual number of trees which have suffered from bad practices and then we go back into that same general area and free of charge plant at least that number of trees on someone else's land. It has proved a fine promotion idea since we never bail out the man who has ruined his own woods but instead help the man who has harvested wisely.

Manufacturing Utilization

"Over all these years we have been carrying the load of a major forestry program with all of the salaries, transportation, fire protection and other expenses which that program requires. Such a program costs money and lots of it although I want to commit myself definitely that it is a good investment.

"We could almost certainly pay the cost from that portion of the growth which we now take from our lands in the form of interest on our investment, yet we would not have much left over to show for our effort other than more and better trees until that day when we are fully stocked and our growth is far above what it is at present.

"Our stockholders have been very farsighted and generous down through the years, being willing and anxious to see much of the earnings plowed back into the operation. They would almost be willing to take their dividends in the form of trees but they are human and would a little prefer dollars. We get those dollars from utilization. Some day we will be harvesting growth in such quantity it will pay all management costs and give a handsome profit besides.

"How far have we come in utilization? Not nearly far enough! Our two sawmills will this year produce about 65 million feet of pine and hardwood lumber, timbers, flooring and finish. We can detect the increasing quality of our logs as the worst trees are weeded from the forest.

"The second of our manufacturing plants was built in 1930 solely as an aid to controlling small hardwoods. It is a wood chemical plant using 100 cords each day of small, low quality hardwoods from which it produces charcoal, wood alcohol, acetic acid and other wood oils. We did not expect it to be profitable. It, however,

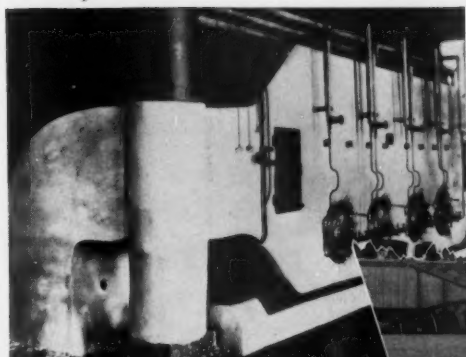
has paid back our investment and has helped us to do almost 750,000 cords of weeding work to date.

"Third came our paper mill in 1937. It started small and has grown rapidly to a pulpwood budget of 220,000 cords this year. It helps our utilization by taking that portion of our pine trees not economically suitable for the sawmill. In the future it will take a much larger portion of its wood from our own lands.

About the Future

"Now I want to do some personal day dreaming about the future. Our No. 1 problem, old and ever new, is what to do with the small hardwood, mainly oak, which like poor relations seems always to be with us. We have hoped these poor relations would strike it rich and let us stop paying for such an expensive control program. We have tackled the problem time and again and this year we are tackling it all over again. Our utilization has a serious flaw insofar as small hardwood is concerned and we hope to mend it. There will remain the question of whether all parts of our utilization are the best and most profitable and I do not suppose any of us will ever be satisfied on that score. We face questions such as these: Shall we continue to use the slabs, sawdust and bark from our sawmill as fuel or shall we turn them into chips? Shall we use some of this waste for Pres-to-logs or construction board products? Shall we continue to use our best pine logs for lumber or for veneer and plywood? Last, what are we going to do about all the lignin which is going down the sewer at the paper mills?

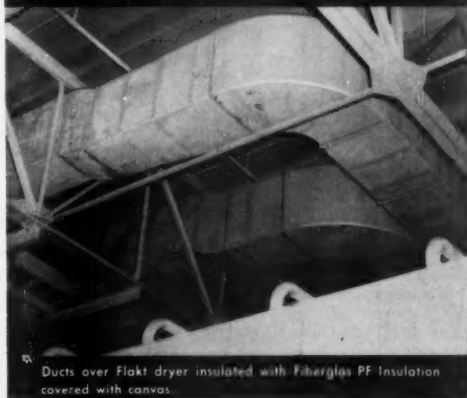
"We are convinced we should never settle down as a single product operation. Times change and so do markets and relative values of end products. We must therefore never tie ourselves permanently to any one manufacturing plant, to any one manufactured article. For this reason, we do not tie ourselves to a standard timber management method but instead try to manage each portion of the forest by the method best suited to it. Assuming that we can continue to stock our land with more and more fast growing, quality trees and can continue to grow them to a diameter which represents financial maturity based on our plant raw material needs for any one particular period in the future, then we will have flexibility in our forest and will be able to alter the end use of the product of our forestry at will. With forestry and utilization each supplementing, complementing and serving the other, we hope to have a winning combination.



Preheated air ducts and burner windbox on VUX boiler insulated with Fiberglas MM Blanket Insulation.



Pipe pressure reducing station insulated with Fiberglas PF Pipe Insulation.



Ducts over Flakt dryer insulated with Fiberglas PF Insulation covered with canvas.

Installation: NANIAMO PAPER MILL
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Personals

MIDDLE WEST NOTES

WILLIAM SLAVIN, president of the Hawthorne Paper Co., has established a \$1,600 scholarship in the Curriculum of Pulp & Paper Technology at Western Michigan College, Kalamazoo. This award is \$400 for each year of a 4-year course, limited to Kalamazoo area high school graduates. It is known as the Hawthorne Paper Co.-William Slavin scholarship.

FRANK SOUTHON has been appointed manager of industrial relations for Kalamazoo Vegetable Parchment Co., in addition to his duties as personnel manager of the Parchment, Mich., operations. As department manager he succeeds **ROBERT A. HOUSTON**, who held the post seven years and left to become a director and v.p. for industrial relations for Fuller Mfg. Co.

G. D. MUGGLETON, v. p. and gen. mgr. of Combined Locks Paper Co. and president of Bare Paper, left a wintry Appleton for two weeks in New York, accompanied by his wife, and they visited their daughter, Mrs. Jere Patterson, and her family there. **FRED SEABORNE**, chief mill manager, Kimberly-Clark Corp., Neenah, was chief speaker at a dinner of the Kimberly-Atlas mills management club in Kimberly, Wis. **WILLIAM J. BROWN**, assistant chief forester for Kimberly-Clark, is Lake state member on the 8-man national council of the Society of American Foresters. Graduate of University of Montana forestry, he worked for U. S. Forest Service in Michigan before joining K-C.

I. W. CARPENTER, president of Carpenter Paper Co., Omaha, recently concluded purchase by his company of Swigart Paper Co., Chicago, from bank trustees of the John D. Swigart estate.

E. M. McCOURT, sales and production co-ordinator for Wisconsin Rapids and Biron, Wis., divisions of Consolidated Water Power & Paper Co., and Mrs. McCourt were in Pacific Northwest over year-end holidays visiting their son **JAMES McCOURT** at Camas, Wash., where he works at CZ mill laboratory. **CLIFFORD GOLDMAN**, resident of Vincennes, Ind., will represent Appleton Woolen Mills in the states of Ohio, Indiana, Illinois, Iowa, Missouri and Kansas. He formerly represented another felt firm and has had many years of operating experience in the industry.

DAN B. CHAPMAN, 1704 North Superior St., Appleton, Wis., has been named Midwest sales rep. for Morden Slush-Makers and Stock-Makers. He recently visited the Morden Machines Co. headquarters in Portland, Ore. to review its latest developments.

DR. KYLE WARD, recent chief of the cotton fiber division of the U. S. Southern Regional Research Lab., has joined the Institute of Paper Chemistry as head of its cellulose group, according to President Westbrooke Steele.



CARL H. LUTH (left), former Sales Mgr. at Ward Paper Co., is Pres. and Gen. Mgr. of a new firm, Paper Converters Inc., 315 W. College Ave., Appleton, Wis., organized by men from various areas of U.S. Have leased No. 2 mill of Fox River Paper Corp. for cutting, packaging and laminating of office and other paper supplies. Mr. Luth, native of Plymouth, Wis., was with Nekoosa-Edwards, later with Ward Paper Co., as Asst. Mgr. and Sales Mgr. N. A. Altman, wholesale paper man of Chicago is Vice Pres. of the new firm; Gerard H. Van Hoof, Little Chute, Wis., attorney, is Sec.-Treas.

R. W. DANIELSON (right), promoted to Credit Manager of Fox River Paper Corp., Appleton, Wis. He served in accounting dept. of the rag paper mill since 1939, except for war service with Army Air Corps.

FOSTER DOANE, who is the new production manager of Bergstrom Paper Co., Neenah, Wis., got in a short Bermuda vacation before taking on his new duties. For nine years he has been sales rep. for Sandy Hill Iron and Brass Works in Glens Falls, N. Y., visiting many countries in Europe and elsewhere. His wife will join him later in Neenah, with their 17 year old son. Another son is at Union College, Schenectady. Mr. Doane was many years with International Paper after graduating from MIT.

CARL H. LUTH, former sales manager of Ward Paper Co., Merrill, Wis., is president and founder of Paper Converters, Inc., at 315 West College Ave., Appleton, Wis. The new firm leased the no. 2 mill of Fox River Paper Corp., for its operations, which include cutting and packaging paper for office and government use and laminating stocks.

R. W. EVANS, plant engineer, Kimberly, Wis., Kimberly-Clark, has moved to Kapuskasing, Ont., to join the engineering dept. **V. E. ZEUTHEN** is new plant engineer for K-C at Kimberly. **OSCAR HAGEN** replaced him in Neenah as head of the paper div. of K-C staff engineering. **JOSEPH B. KINDLEBERGER**, son of the founder of Kalamazoo Vegetable Parchment Co., the late "Jake" Kindleberger, and its vice president in charge of consumer and market research, died suddenly Jan. 3. He was only 45. He was only child of the founder. His mother, widow and two daughters survive.

ART SCHMALZ, production manager, reminisced on the old days at Thilmany Pulp & Paper Co., when the Quarter Century Club recently met. Inscribed gold watches for 30 years service were given to **LOYAL SCHMALZ**, **ANTON BOOTS**, **JOSEPH HURST**, **PETER HUSS**, **NORBERT KILGAS**, **EDWARD LAMERS**, **EDWARD LAPPEN**, **ERNEST LETTAU**, **CORNELIUS NIESING**, **LESTER SCHLENDER**, **ANTON SMITH**, **GUS**

IN MIDWESTERN NEWS



RALPH BUECHLER (left), named Sales Engineer for D. J. Murray Mfg. Co., Wausau, Wis., who will assist in expanding line of Murray Products. He is a graduate of Purdue in mech. eng., veteran of war in South Pacific with air force and was 15 yrs. with Black-Clawson.

GEORGE H. GERPHEIDE (right), former President of Hawthorne Paper Co., Kalamazoo, who has joined Paper Corp. of U. S., as we announced last month. His job will be to develop new Midwest markets for this firm, which formerly concentrated on sales to the U.S. government. Its President is Herbert Simmonds and Vice Pres., Geo. W. Farrington.

VAN DENZEN and **RICHARD WELTER**. **PAUL K. CARTIER** has been made assistant secretary of Champion Paper & Fibre Co., with responsibilities in the Hamilton division. He was cashier in the Hamilton general offices 40 years after starting as a millwright.

E. H. BINDLEY of Cheney Pulp & Paper, Franklin, O., chairman of the Miami Valley Supts., announced **TANY AGRONIN**, chief engineer for Shartle, is the new industrial affiliate rep. for the group.

CHARLIE Y. CAIN, Hooker chemicals rep., of 4369 Woodlawn Ave., Western Springs, Ill., is industrial affiliates rep., Northwestern Div., according to **PAUL H. WEST** of Thilmany, chairman.

Bob Engelhardt Dies

Robert F. Engelhardt, who was superintendent at the United Board & Carton Corp. mill at Urbana, Ohio, was asphyxiated by gas fumes on the night of Dec. 9 in a cabin at Lake St. Helen, Mich. A companion, James Roy Hunt, of Monroe, Mich., was revived when found. They were on a hunting and fishing trip.

Bob Engelhardt was past chairman of the N.Y.-Canadian division of Supts. Association.

'Twas Cold in Wisconsin

A lot of ex-Appletonians and former Fox River Valleyites scattered in mills over the land will be interested in knowing the Wisconsin paper town and surrounding area had a white Christmas with 15 below weather. Wausau was even colder - minus 25.

K-C and United Wallpaper End Atlas Mill Agreement

United Wallpaper Inc. has discontinued a 20-year manufacturing arrangement with Kimberly-Clark Corp., at the latter's Atlas mills near Kimberly, Wis., but K-C planned to retain converting. United Wallpaper is moving its employees in expansion of its specialty products equipment to its York, Pa., plant but has refused to sell land at Kimberly on which it had planned a new plant.

HANDLE ANY WOOD

with LORAIN CRANES

Any wood... anywhere... faster, cheaper, safer! Below are four pulpwood handling operations. Each is different—but a properly-equipped, suitably-mounted Lorain Crane solved each one. Ask your nearest Thew-Lorain Distributor what Lorains can do for you.

THE THEW SHOVEL CO. • LORAIN, OHIO



LOOSE



This Lorain 50-1 crawler crane, with pulpwood grab, handles 15 to 20 cords of jumbled, loosely piled wood per hour. On blockpile work Lorains reduce accidents; eliminate hazards of dynamiting frozen wood; replace 20 to 30 men.



BUNDLED



At 30 mph this rubber-tire Lorain-TL Moto-Crane makes shuttle runs of 80 to 100 miles between 3 widely separated concentration yards where it uses slings to unload and load 2 1/2 cord stacked bundles.



STACKED



A grab is used on this 15-ton Lorain-TL Self-Propelled Crane, to load chipper cars from the stockpile. Here's another attachment—and another Lorain mounting—one-man operated, with 7 mph mobility for use anywhere in the yard.



WET



Here, 3 big Lorain-820 Cranes with pulpwood grabs transfer big bites of wet wood from the water to a barge. This mill uses 17 Lorains to help get 450,000 cords delivered to the mill the same year as cut. (Names of all owners on request.)

TRAVEL ANY WHERE

Most Lorain Cranes are available on 3 mountings, to match the ground, travel and mobility demands of mill.

CRAWLER MOUNTINGS



For infrequent travel (1 to 2 mph) where terrain demands soft-ground flotation and traction. Capacities from 6 tons up.

SINGLE-ENGINE SELF-PROPELLED CRANES



Single-engine, one-man rubber-tire cranes for localized mobility up to 7 mph. Capacities from 10-tons up.

2-ENGINE MOTO-CRANES



High-speed, 30 mph unlimited mobility. Also for off-the-road travel. Crane capacities from 10-tons up to 45-tons.

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CRANES
for
PULPWOOD
HANDLING

ADVANCED IN THEIR COMPANIES



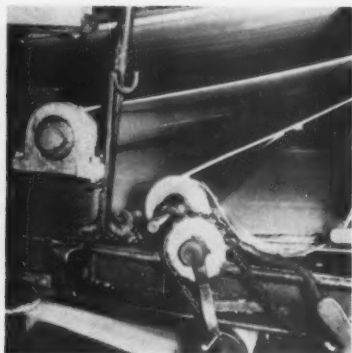
HENRY D. JOHNSTON (left), Assistant to the President, Strathmore Paper Co., has been elected to the Board of Directors of the company, which has mills at West Springfield and Woronoco, Mass.

J. C. BARTHALL (right), now in charge of new products development for American Cyanamid Co., New York City, who was formerly Senior Chem. Engineer at its Lab in Stamford, Conn. He is graduate of Syracuse in pulp and paper, was also at Institute in Appleton.



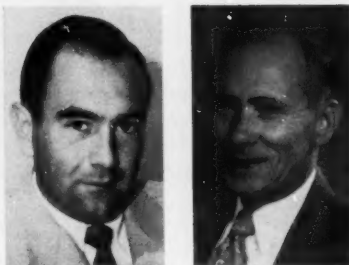
GLEN D. KING (left), who is Assistant to Operating Paper Mill Supt., Crown Zellerbach Corp., West Linn, Ore. He was Manager of New Products in San Francisco headquarters of the company and before that in Central Research at Camas. Born in Spokane, he graduated from U. of Wash. and joined C-Z in 1934.

S. R. "Cy" WHITING (right), who started his paper career in Michigan, where he was an original stockholder in KVP and helped organize Watervliet Paper Co., has retired as Pacific Coast Sales Mgr. of Inland Empire Paper Co., of Spokane, Wash. He will continue to live in Pasadena, Calif. He started his career as salesman for the old King Paper Co. of Kalamazoo; was Sales Mgr. for Watervliet Paper. For 20 years he represented Inland Empire, with Los Angeles headquarters.



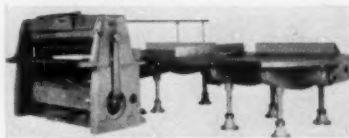
MT. HOPE MACHINERY CO.'S "FREE-WHEELING" EXPANDER shown here as installed on press section felts on Fourdrinier machines; first cylinder installation was in December. It prevents wrinkling, controls width and eliminates waste; eliminates need of worm rolls, opens felt for better cleaning.

Midwest-Fulton Promotion— —Researcher For Link-Belt



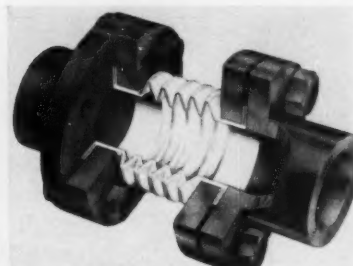
GEORGE S. HERBERT (left), who has been promoted from Asst. Treas. to Asst. Gen. Mgr. of the Midwest-Fulton Machine Co., Dayton, O., builders of dryer drainage systems and a new continuous beater. Graduate of Dennison U., he has been with the company 5 years in purchasing and production and other capacities. He will serve under M. V. Knoll, V.P. and Gen. Mgr.

DR. L. C. MARSHALL (right), named Director of Link-Belt Co.'s new Physical Testing & Research Lab at Indianapolis. He will seek ways to improve Link-Belt conveyors and power transmission and do original research. Born in China of missionary parents, he has been Prof. of Electr. Eng., U. of California, headed the Microwave Lab there and worked on nuclear research. At MIT in World War II he developed radar systems.

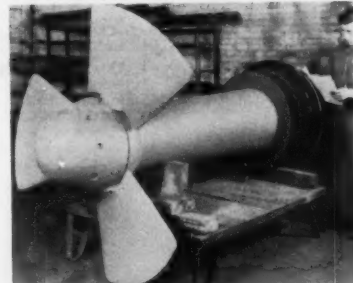


RECENTLY INSTALLED AT VALLEY PAPER CO., Holyoke, Mass., is this new 86 in. Model E undercut trimmer built by THE SMITH & WINCHESTER MFG. CO. Note side-loading backtable, push button controls.

FOR PIPING PROBLEMS



CRANE PACKING CO., Dept. P5, 1800 Cuyler Ave., is address to obtain a free booklet "John Crane Chemlon... the best in Teflon." This company offers the above new John Crane Bellows-type Connector, made of chemically inert Teflon, for many pipe line applications where vibration, expansion, and electrolysis exist in handling corrosive liquids, gases or solvents. It is electrically non-conductive, flexible even at minus 94 degrees F. and as strong at 480 as at 70 degrees, says Crane Packing officials.



ONE OF SHIPMENT of 58 in. diameter "Package Type" propeller agitator units recently built by E. D. JONES & SONS CO., Pittsfield, Mass., for a 10,000 cubic foot stuff chest in a Southern mill.



QUALITY CONTROL GIRLS at Gardner's Middletown carton plant receive "on-the-job" instructions from Brainard E. Sooy, chief of quality control. The girls trained for a month before beginning their jobs. They are inspecting a printed sheet of cartons. From left to right: Virginia Rowe, 1410 Germantown Road, Middletown; Betty Lukas, Route 1, W. Middletown; Sooy; Carrie Dickerson, 1605 Carolina Ave., Middletown; Martha Engle, Route 2, Middletown.



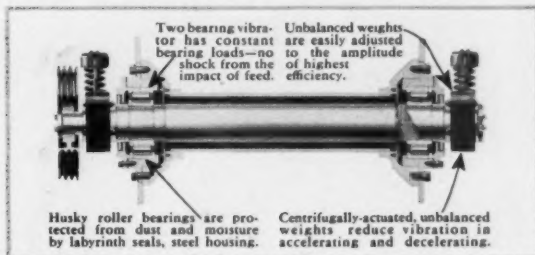
How to get accurate, high-capacity sizing of wood chips

TODAY, pulp and paper makers demand high chip output at lower cost. Yet sizing must be accurate—the product free of slivers and sawdust.

And that's exactly what you get with the Link-Belt CA Vibrating Screen. Concentric Action imparts even, circular motion to every square inch of every deck. Lively tumbling gives each chip maximum opportunity for sizing.

Thanks to automatic, centrifugally controlled unbalanced weight, you get this high capacity with smaller motors than required by conventional screens. For complete information, call your Link-Belt representative.

Note the full loading and rapid clearing of the top deck on this double-deck Link-Belt CA Vibrating Screen. Installed at an Oregon wood products plant, screen can handle up to 2000 cu. ft. of wood chips per hour.



**WRITE FOR BOOK 2354
for complete layout data**



LINK-BELT

VIBRATING SCREENS

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices in Principal Cities. 13,707

New Boiler Features

PLANT AT OREGON CITY DESCRIBED

By Eric R. Craig

Steam Plant Engineer

Publishers' Paper Co., Oregon City, Ore.

The erection of the initial phase of a complete new central boiler plant at the Publishers' Paper Co.'s mill at Oregon City, Ore., (completed Feb., 1950) consists of an 85,000# per hour, two drum Springfield boiler with adequate auxiliary equipment for an ultimate plant capacity of 200,000# per hour.

The boiler combustion chamber is water-wall enclosed on all four sides with 3" bare tubes set on 6" centers. The unit is designed to burn a combination of fuel oil and the bark by-products from a hydraulic log barking process. The oil burners are installed in the rear wall and reflect their heat to the incline tubular bark grate, which grate is part of the boiler heating surface, and consists of 3 1/4" bare tubes set on 3 3/4" centers and pitched at an angle of 40°.

The bark is fed to the grate by gravity through an air-sealed throat from a live bottom surge bin. Preheated air at 500° F. from a Springfield tubular type air heater furnishes the combustion air requirements. Forced and induced draft fans are tandem driven by a back pressure turbine through a reduction gear.

The boiler is designed for an ultimate working steam pressure of 250# with 100° F. superheat. A steam pressure reducing valve reduces this pressure to 150# for the present mill process steam requirements. In order to eliminate induced draft fan erosion from the high fly ash carry-over, the cinder removal system is installed ahead of the fan.

All pumps are in duplicate, with the essential ones having one unit motor and the other turbine driven. Fuel oil heaters are in triplicate and designed so any two heaters will carry the normal boiler load.

Plant make-up water, which is obtained from the adjacent Willamette River, is first passed through an incline 200 mesh screen, then to a sedimentation tank followed by pressure sand and gravel filters, after which it enters a 15,000 gallon storage tank from which it is pumped to a similar tank or hot-well. This hot-well serves as the common collecting point for condensate returns from the mill system. From the hot-well, the water is pumped to either, or both, deaerating heaters from which the feed water pumps

take their suction.

All the steam-driven auxiliary equipment exhausts to a common header, which header furnishes the heating steam for the fuel oil heaters, feed water heaters, and combustion air tempering coil. Any deficiency in heating steam requirements is made up through a reducing valve which is tied in between this low pressure and the high pressure steam systems.

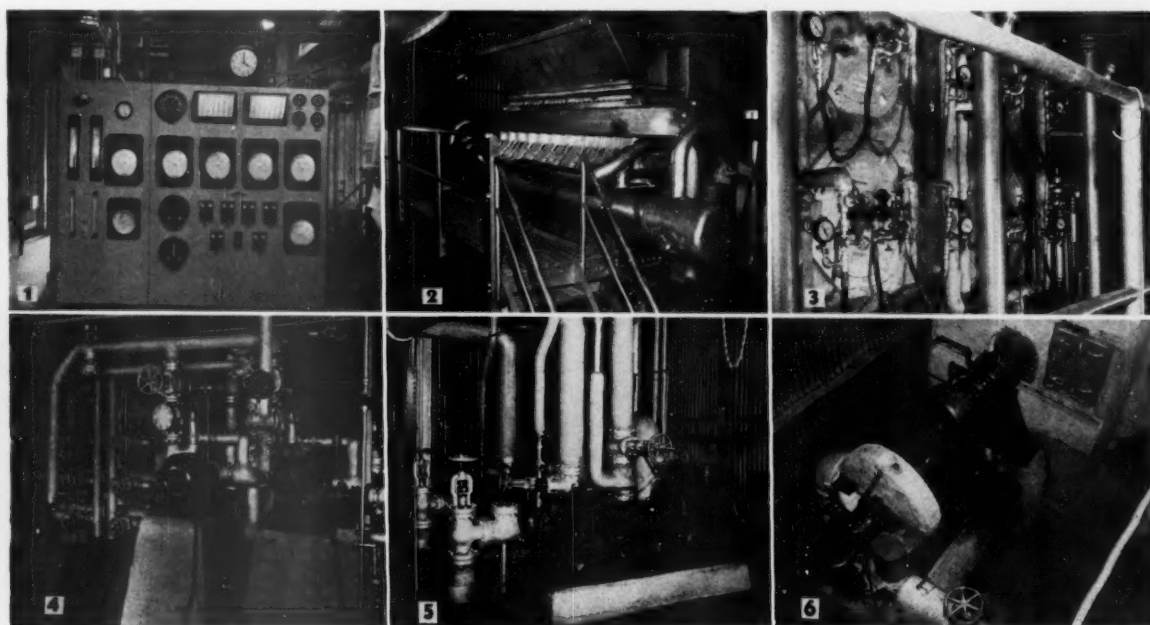
The station heat balance is obtained through the operation of sufficient steam-driven auxiliary equipment to meet the heating steam demands.

Heat recovery from the continuous blow-down system is obtained in a flash chamber and heat exchanger.

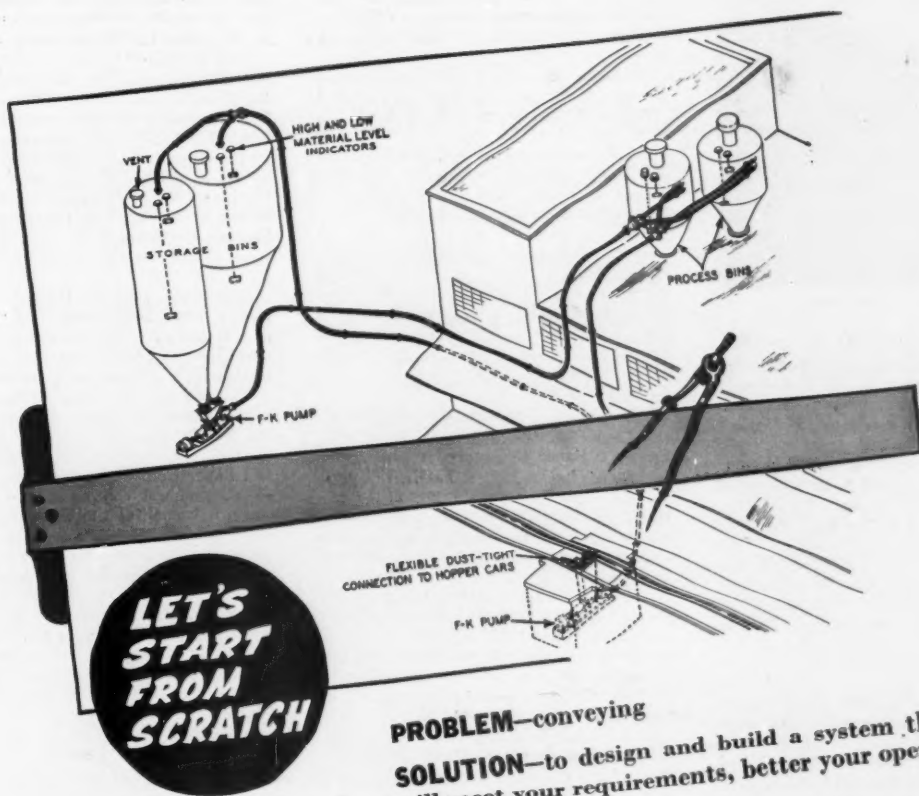
A 32-volt 500-watt turbine-driven generator, equipped with a solenoid operated steam throttle valve, supplies plant emergency illumination during electric power interruptions.

Complete automatic combustion, steam pressure and boiler water level control, plus a liberal installation of warning signals, add to the smooth and efficient operation of the plant.

The decision to depart from the con-



1. Control panel in new central boiler plant at the Publishers' Paper Co., 2. Wood refuse feeder; 3. Fuel oil burners; 4. Fuel oil pumps; 5. Feed water pumps; 6. Forced and induced draft fan and drive.



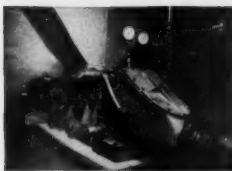
PROBLEM—conveying
SOLUTION—to design and build a system that
 will meet your requirements, better your operation

Fuller Company occupies a unique position in the field of pneumatic conveying of dry pulverized and granular materials. It designs and manufactures four primary types, from which it can select that best adapted to specific requirements; in other words, equipment best suited to do the work most efficiently and economically, with the materials to be handled.

Each job should be considered separately. That's why we say, "Let's start from scratch" . . . when the plant is in the design stage. A preliminary study should be made of local conditions, so that proper equipment can be recommended. The selection of the type of equipment, and its layout, best adapted to satisfy any individual set of conditions, should be

made by specialists of wide experience in the engineering of pneumatic conveyors. We strongly urge all prospective purchasers to avoid the preliminary engineering, but to permit us to submit a recommendation, or engineering study, comprising a proposal drawing and estimate for your approval, or the approval of your consulting engineers.

Fuller Company has a tangible resource in the years of experience and training of its personnel in all phases of pneumatic conveying. Its engineers are at your service, ready to make studies of your requirements, and suggest means for the betterment of your operation. You're under no obligation for this service.



FULLER-KINYON



AIRVEYOR



FULLER-FLUXO

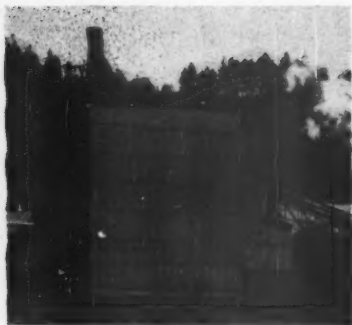


F-H AIRSLIDE

DRY MATERIAL CONVEYING SYSTEMS
 AND COOLERS—COMPRESSORS
 AND VACUUM PUMPS—FEEDERS,
 G-57 AND ASSOCIATED EQUIPMENT

Fuller

FULLER COMPANY, Catasauque, Pa.
 120 So. LaSalle St., Chicago 3
 420 Chancery Bldg., San Francisco 4



Exterior of Boiler Plant

ventional method of burning wood refuse was not made until very careful consideration had been given to all the factors involved. Steam requirements were such that a normal steam production of 85,000# per hour was required from the new boiler, of which 20,000 to 25,000 pounds per hour were expected to be generated from the wood refuse and the balance from fuel oil. Due to the high moisture content of the refuse—averaging 65 to 68%—and its low B.T.U. value, it was realized that to meet these specifications in a conventional dutch oven would require a large grate area, predrying of the refuse, a liberal installation of heat-reflecting refractory, or the assistance of a secondary fuel.

It was believed that these specifications could be obtained in a water-cooled furnace with the minimum of exposed refractory surface without the necessity of predrying, provided the fuel bed was kept thin, subjected to the radiant heat from the fuel oil burners and supplied with highly preheated combustion air. This belief has been substantiated, as is evident from the fact that an average of approximately 23 to 25 pounds of steam per pound of oil fired is obtained, as against approximately 15 pounds when oil only is burned.

A manual ash-dumping grate installed at the lower end of the refuse-burning incline hearth, and through which high-pressure air is introduced, eliminates the necessity of opening the furnace doors for ash removal. The introduction of this high-pressure air under the lower end of the incline hearth creates considerable turbulence of the fuel bed, with a resultant high fly-ash carryover. This fly-ash carry-over creates the desired effect of scouring the boiler and pre-airheater heating surfaces.

A series of high-pressure steam jets installed in the plenum chambers under the refuse-burning hearth permit automatic cleaning of the air lanes between the hearth tubes.

It was recognized that this method of burning wood refuse in combination with fuel oil was new, and that while every point of design and operation was carefully considered, some "birth pains" would probably have to be overcome. Some difficulties were experienced, but by a few minor changes they were overcome, and the operation today is not only entirely satisfactory but also very efficient. In fact

today we are giving some thought to the desirability of actually purchasing hog fuel from outside and thereby further decreasing the quantity of fuel oil for a given steam output.

On a test run of 4,500 continuous hours the unit maintained its rated capacity and specified temperatures with a minimum draft loss.

Consulting engineer was H. W. Beecher of Seattle; building contractor was The Austin Company, and the boiler manufacturer was Springfield Boiler Co.



CANADIAN NOTES

C. O. SISLER, Virginia-born manager of the Sault Ste Marie division of Abitibi Power & Paper Co. retired recently and was succeeded by E. H. LOUGHEED, previously assistant manager. Mr. Sisler entered the industry 40 years ago during construction of the original mill (Lake Superior Paper Co.) at the Soo. He was mill manager 20 years.

Sturgeon Falls division of Abitibi Power & Paper Co. has a new control superintendent in B. C. BARRINGTON, formerly groundwood control engineer of the Thunder Bay division.

CYRIL HAGUE, personnel manager of Elk Falls Co., whose newsprint mill is now under construction at Duncan Bay, Vancouver Island, has moved from Vancouver. B. C., head office, to his permanent location at the new site.

R. J. APPERT, head of the Spruce Falls Power and Paper Company, Ltd., service department in New York, and GUY M. MINARD, plant manager at Kapuskasing, Ont., have been named vice presidents of

the company. Mr. Appert is a former resident of Neenah, Wis. He graduated from the University of Minnesota in 1937.

D. W. AMBRIDGE, president of Abitibi Power & Paper Co. and chairman of the board of Alaska Pine & Cellulose, conferred in Victoria, B. C. with members of the provincial cabinet, accompanied by WALTER KOERNER, managing director of the Alaska Pine organization.

G. L. M. HELLSTROM, head of Paper Machinery, Ltd., Montreal, has been presented with a scroll by the government of Sweden testifying to his services in extending the commerce of Sweden with Canada.

DR. JOHN S. BATES, director of Price & Pierce, Ltd., and manager of the company's office in Montreal for the past eleven years, has retired from active administrative duties, being succeeded by E. G. KIRBY. Mr. Kirby was formerly with Spruce Falls Power & Paper Co. and the Ontario Paper Co.

F. O. SOUGHTON, of the Long Lac Pulp and Paper Company at Terrace Bay, was elected general chairman of the northwestern branch of the Ontario Pulp and Paper Makers' Safety Association in Fort William. Other officers elected to the executive committee for 1952 were as follows: A. E. MINOR, Ontario-Minnesota Paper Co., Kenora; JAMES BEDDARD, Brompton Pulp and Paper Co., Red Rock; ROBERT MARSTON, Marathon Paper Mills of Canada, Marathon, and WILLIAM LESSE, Abitibi Power and Paper Co., Fort William, members-at-large.

Duplessis Wants Mill

Premier Duplessis of Quebec has again suggested government action in the newsprint industry—in a recent speech he said the government would take necessary means to establish a newsprint mill on the Saguenay to continental European papers to help them "fight subversive ideas."

IN CANADIAN NEWS THIS PAST MONTH

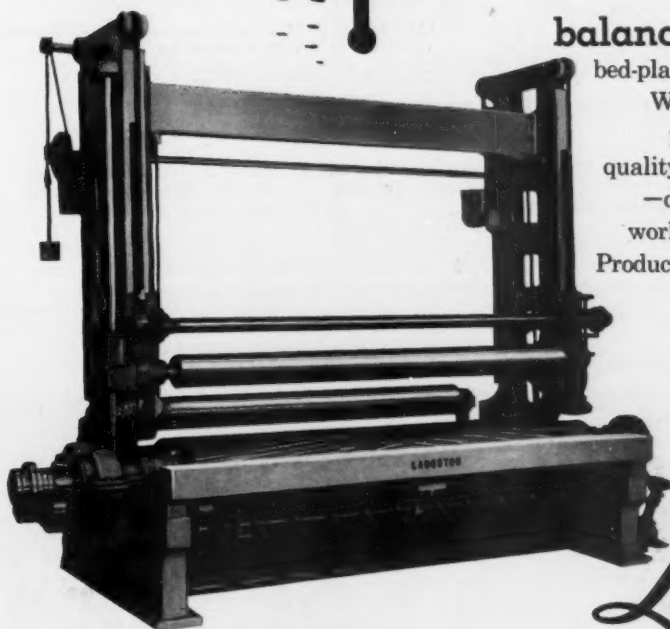
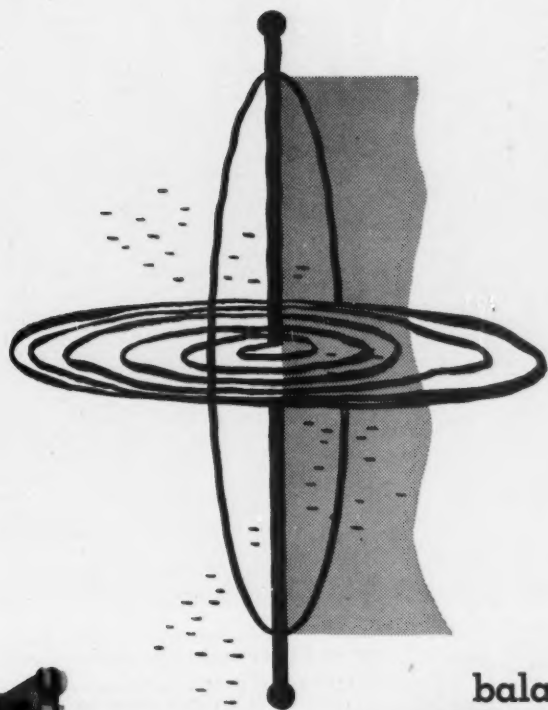


These names and faces figured in Canadian news recently (l to r): GUS HELLSTROM, head of Paper Machinery Ltd., Montreal, was presented with a scroll by the Government of Sweden for extending Canadian-Swedish commerce. He is the first person in Canada of Swedish origin to receive the honor.

CLAUDE CHRISTIANSEN, former Supt. and Chem. Engineer in a number of Southern and Western U. S. mills, has joined the Pulp & Paper Research Institute of Canada, Montreal, as Captain of a Task Force which will travel to Canadian kraft mills gathering data on causes for digester corrosion and remedies. The work is financed by 13 mills. Mr. Christiansen was honor graduate, chem. eng., Oregon State College, and was with Potlatch Forests, Weyerhaeuser, Crown Z., St. Regis and St. Mary's mills.

FRED O. SOUGHTON, Services and Safety Supervisor, Long Lac Pulp & Paper Co., Terrace, Ont., has been elected General Chairman of the Northwestern Branch of Ontario Pulp & Paper Makers Safety Assn, formed in 1949 with 11 mills participating.

J. A. (JACK) YOUNG, honored for 30 years with Pacific Mills when presented with silver tray with engraved signatures of many associates. Mr. Young, now First Vice Pres. in Vancouver, B.C., started at Ocean Falls mill as Chief Accountant. He is reputed a fine bird shot, fly fisherman and is a keen golfer and grower of prize "mums."



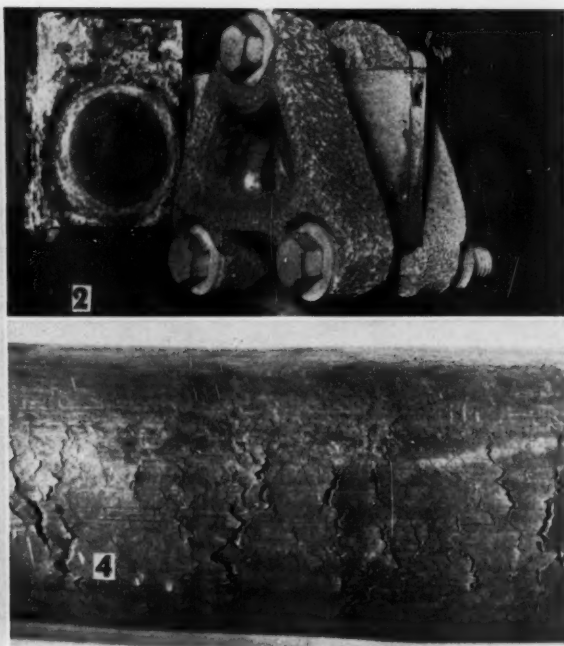
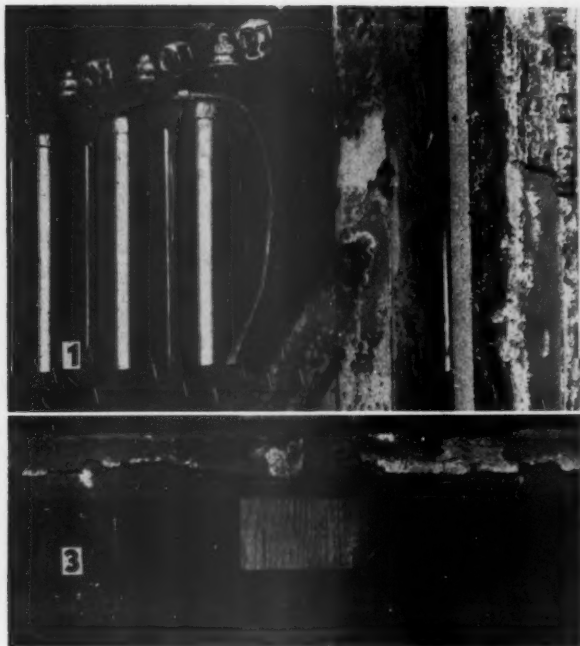
balance Substantially built from bed-plate up, Langston Slitters and Winders provide the balanced power that produces highest quality rolls. Shown is Type "DA" —designed for very heavy duty work in widths from 92" and up. Produces top quality rolls at speeds up to 3500 feet per minute.



SAMUEL M. LANGSTON COMPANY
CAMDEN, N. J.

February 1952

Langston
slitters and winders



EXAMPLES OF CORROSION SELECTED BY H. E. SPRINGER, Rayonier's Chief Electrician at Port Angeles mill:

- 1—A 2300 VOLT BUS COMPARTMENT exposed to traces of chlorine gas and moisture and showing corrosion of steel, copper and aluminum.
- 3—STEEL CONDUIT EXPOSED TO SULFUR DUST AND RAIN.

2—A 440 VOLT CAPACITOR EXPOSED TO TRACES of chlorine gas and moisture and showing corrosion of steel and copper parts.

4—CABLE SHEATH OF LEAD crystallized from strain or vibration and exposure to corrosive atmosphere circulating through conduit.

CORRODED ELECTRICAL EQUIPMENT

An advocate of air-conditioned, enclosed rooms for electrical equipment which may be corroded by pulp mill gases, dusts or liquids is H. E. Springer, chief engineer for Rayonier, Inc., Port Angeles, Wash.

Mr. Springer gave a paper on this type of corrosion at two meetings in the Far West in recent months—one at AIEE meeting in Portland, Ore., and the other the TAPPI Engineering Conference in Longview, Wash. His collection of slides showing corrosion aroused so much favorable comment by his audiences that PULP & PAPER asked him to select four of the most interesting or striking ones to be reproduced on this page.

Said Mr. Springer:

"Experience is proving that for electrical installations in contaminated atmospheres all possible effort should be made to group as much apparatus as practical together in enclosed, air conditioned rooms.

"This type of protection is applicable to control, switchgear, load center transformers, motor generator sets, rectifiers, and other similar apparatus, and equipment thus protected requires only normal maintenance. It also allows the use of standard equipment, more readily available and less costly than that of gas and watertight construction.

"High voltage power apparatus is usually of outdoor construction and not easily housed. Such equipment should be located away from corrosive atmospheres. If this is not possible, a measure of pro-

tection is provided by heavily coating all mechanical and current carrying parts with special paint finish.

"The use of totally enclosed motors, gas and watertight control and the best wiring materials available offers the only protection against corrosion where equipment must be located directly in contaminated atmospheres, providing selection of the

materials used in their construction receives careful consideration relative to the corrosives to which they will be exposed.

"Providing clean operating conditions for equipment vital to production can hardly be overstressed if we are to guard against high maintenance cost, safety hazards, and lost production.

NEW REICHOLD CHEMICALS, INC., OFFICERS



P. L. SWISHER, Vice President in Charge of Sales and Advertising, Reichhold Chemicals, Inc., and MARK K. PINKERMAN, Reichhold's advertising manager, both ex-Detroiters, show off the company's new executive offices at 630 Fifth Ave., New York City, to three members of the sales staff of Deeks and Sprinkel Co., RCI's Cincinnati representatives. Left to right: MR. PINKERMAN, C. E. SWEENEY, MR. SWISHER, W. J. DEEKS and W. J. WILSON.



Early Paris post office. Illustration from Bettmann Archive.

Paper, Printing and the Postal Service

Older than paper, far older than printing is the idea of a postal service. It began in primitive Persia, flourished in ancient Rome. Even through the "Dark Ages," Merchant Guilds carried it on. But a King of France, Louis XIV, in 1653 first extended postal service to the individual. For a sou, the Paris post office would deliver a letter to your private abode.

In America the postal service is inseparably associated with the name and fame of Benjamin Franklin. Under British rule he served 16 years as Deputy and 21 as Postmaster for the Colonies, then in 1775 became the first Postmaster General appointed by the Continental Congress.

Once hand written letters largely made up the contents of the carrier's pouch. But the coming of plentiful paper and the advancement of printing changed everything. Today the United States Post Office handles more than four billion pounds of printed matter, letters and cards each year, as well as seven billion pounds of merchandise wrapped in paper and paper board. Paper, printing and the postal service work together in providing and stimulating the life blood of progress. Supplying those billions of pounds of paper in such infinite variety of purposes is one of the great achievements of the pulp and paper industry.

The dramatic story of paper is told in the sound-and-color film, "Paper—Pacemaker of Progress," and in a book under the same title. Both are presented by F. C. Huyck & Sons as a tribute to the Paper Industry. The book will be sent free upon request.

F. C. HUYCK & SONS • Kenwood Mills • RENSSELAER, N. Y.

Pacific Coast Representative: Pacific Coast Supply Co., Public Service Building, Portland, Ore.; 343 Sansome St., San Francisco, Calif.

February 1952



News and Notes from EQUIPMENT AND SUPPLY COMPANIES

ALBERT E. FORSTER has been elected a vice president and member of the executive committee of **HERCULES POWDER CO.** Paul Mayfield has been appointed general manager of the Naval Stores Department, succeeding Mr. Forster. Mr. Forster fills a vacancy created by the retirement last week of Petrus W. Meyeringh because of health. . .

MIDWEST-FULTON MACHINE CO. announces appointment of Albert J. Smith as assistant to the chief engineer, Robert M. Cook. Mr. Smith is a graduate of the University of Maine, where he majored in pulp and paper. He graduated in 1934. Mr. Smith was with the Moraine Paper Co. of West Carrollton, Ohio, until 1942, served in the chemical warfare branch of the army until 1946, joined the Inland Mfg. Co., Dayton, a subsidiary of General Motors. Recently Mr. Smith was with Commonwealth Engineering Co. of Dayton as a field engineer in research and development for paper mills and chemical plants.

J. H. KING, vice president of **THE BABCOCK & WILCOX CO.**, has been named to head the reorganized boiler division of the company and **LUKE E. SAWYER** and **EDWARD A. LIVINGSTONE**, president and vice president respectively of the recently absorbed subsidiary Tube Company have been elected vice presidents of B&W, according to an announcement by Alfred Iddles, president. The announcement said that the boiler division of the company would now comprise what was formerly the marine department, stationary boiler and special products departments and that all of these operations would be consolidated under Mr. King. . .

THE BRISTOL COMPANY, manufacturers of recording, indicating and controlling equipment, of Waterbury 20, Conn., has appointed **GEORGE A. HALL** to be its special representative in serving the pulp and paper industry, according to **H. E. BEANE**, general sales manager of the company. Mr. Hall, who has been with Bristol a long time, will work out of Waterbury. . .

GENERAL CHEMICAL DIV., Allied Chem. & Dye Corp., 40 Rector St., New York 6, N.Y., has issued a loose-leaf 264 page indexed directory of its lines of about 1,000 products under the Baker & Adamson trademark. They range from bottle lots of lab reagents to carload quantities of fine and heavy chemicals. . .

THE BLACK-CLAWSON CO. announced appointment of **A. G. GIBSON** to the position of chief engineer of the Black-Clawson Hamilton, O., division. **P. J. JERARDI**, former Black-Clawson chief engineer, has accepted an executive position with the **BALDWIN-LIMA-HAMILTON CORP.**, a neighbor of Black-Clawson in Hamilton. . .

HERCULES APPOINTMENTS



C. H. KENT (left), appointed Special Sales Rep. in New York and New England, and **HENRY L. MELLEN** (right), who succeeded Mr. Kent as District Mgr. at Hercules Powder Co.'s PMC Dept. in Holyoke, Mass., according to M. M. BIXBY, Director of Sales of the company. Mr. Kent, with Hercules since 1912, stays on in Holyoke. Mr. Mellen was Asst. Mgr. there.

OWENS-CORNING FIBERGLAS CORP. with its "Atom Andy," powerful-looking six foot gorilla manikin, is putting on a crowd-stopping demonstration in the display window of the Fiberglas building 16 East 56th St., New York. The display calls attention to the great strength of Fiberglas yarns as reinforcing agents for industrial papers and tapes strength, incidentally, equal to that of stainless steel. "Atom Andy" was built by Marie Hammer, New York animal artist, who molded the plastic animal, painted skin areas and covered it with second-hand fur. Fiberglas-reinforced tape, which the gorilla is depicted attempting to break, has tensile strengths as high as 500 pounds per inch of width, and is used to replace steel banding in shipping heavy loads. Samples of other tapes and papers and photographs of their end uses complete the display under the main caption, "Sinews of Glass Give Your Product More Muscles." . .

RELIANCE ELECTRIC & ENGINEERING CO. has opened its new \$1,800,000 Euclid (Ohio) Plant. Some 425 employees of the company's engineering, development, research, renewal parts and tool departments moved into the new facility from the firm's two plants on E. 152nd Street, Cleveland. A brief plant-opening ceremony was held one day last week by the company. In attendance were a host of Reliance executives and employees as well as Kenneth J. Sims, mayor of Euclid, and civic leaders. . .

OAKITE SERVICE representatives, Oakite Products, Inc., manufacturers of specialized cleaning materials, gathered for a series of technical-sales conferences at Chicago, San Francisco and New York recently. Featured subject of discussion at these meetings was the major role that cleaning and allied procedures must play in helping industry meet increased defense and civilian production requirements. . .

HOOVER ELECTROCHEMICAL CO. announces a 5 million dollar plant expansion program. **R. L. Murray**, president, stated that the company will begin immediately a large construction program for its Tacoma, Wash., plant to increase its chlorine and caustic soda output for the pulp and paper industries of the Northwest. Hoover has recently arranged for the purchase of a substantial acreage from the Tacoma Port Authority and dredging operations soon to get underway will provide deep water facilities for shipping chlorine and caustic soda by barge. . .

SHARPLES CHEMICALS INC. and **PENNSYLVANIA SALT MANUFACTURING CO.** have combined through an exchange of common stock **George B. Beitzel**, Pennsalt president, announces. For the present, Mr. Beitzel said, Sharples will continue to operate as a separate unit of Pennsalt, with, however, an exchange of technical information and coordination of some policies to the mutual benefit of both organizations. . .

MAURICE E. CODY, 63, vice president and general manager of **THE BLACK-CLAWSON CO.** in Hamilton died Dec. 20. Mr. Cody was born in Fort Wayne, Indiana, and began his long successful papermaking career with the Fort Wayne Corrugated Paper Co. He became affiliated with National Paper Board (now Fibreboard Products Inc.) as general manager for several years. Returning to Tennessee, he designed and operated one of the first mills to make .009 board from chestnut chip. He was vice president and general manager of Bogalusa Paper Co. (now Gaylord) and later general manager at Union Bag, Savannah. Mr. Cody joined Black-Clawson in 1946. . .

R. BURKE MORDEN, president of **MORDEN MACHINES CO.**, is traveling from Portland, Ore., to the February Tappi meeting in New York via Central and South America. During the trip he will visit the nearly 50 Morden "Stock-Maker" installations in Mexico, Argentina and Brazil, as well as mills in Peru and Chile. . .

TALBOT "PETE" PETERSON, assistant secretary and sales representative for Valley Iron Works, Appleton, Wis., was honored recently by being chosen the Wisconsin state chairman of a committee which will campaign for MacArthur delegates to the Republican convention. He also is chairman of the Young Republican club of his district.

Johns-Manville Elects

Leslie M. Cassidy, president of **Johns-Manville Corp.**, New York, has been elected chairman and chief executive officer. He succeeds the late **Lewis H. Brown**. **Adrian R. Fisher**, vice president in charge of all asbestos mining, has been named president.

SMIDTH

ROTARY KILNS

For
REBURNING LIME SLUDGE



The illustration above shows a modern, efficient, Smidth Rotary Kiln for reburning lime sludge at the plant of the West Virginia Pulp & Paper Co., Charleston, South Carolina.

F. L. Smidth & Co. are specialists in the design and manufacture of rotary kilns and have furnished numerous installations in many countries for burning lime, lime sludge, dolomite, magnesite, cement, ores, etc.

F. L. SMIDTH & CO.

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NEW SOURCES ARE TAPPED FOR PULP MARKET

SEMI-CHEM MADE FOR SALE

The manufacture of semi-chemical pulps for market is rapidly becoming a subject of economic interest to a great many manufacturers and pulp marketers in the United States and Canada. The fact that semi-chemical pulps are now being refined and bleached to a point where they are suitable for at least part of the furnish for some of the quality papers has stimulated this interest.

In the exclusive series of articles on semi-chemical pulping which have appeared in *PAPER & PULP* over the past couple of years, it is noteworthy that there have been articles on quality paper uses—as for book paper at Consolidated Water Power & Paper Co. and Watervliet Paper Co., and for glassine at a new plant being built by Rhineland Paper Co. Now two important Pennsylvania and New York quality mills are adding plants. In previous issues we have detailed the processes used by several making semi-chemical pulps for grades from .009 corrugating to fine papers.

The search for new pulp supplies and the possibilities of mixing semi-chemical pulps of sulfite, kraft or groundwood variety are two principal factors in pointing up the market possibilities.

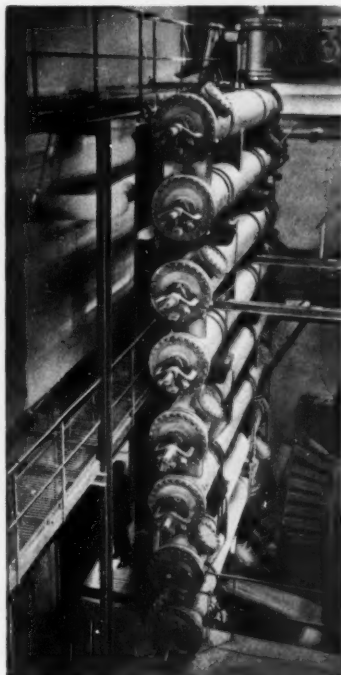
An example of a mill which is making a semi-chemical market pulp is Veitsiluoto Osakeyhtiö, which is in Veitsiluoto, Finland. In fact, it is exporting this pulp and finding a ready market.

Here a new semi-chemical pulp mill has been added to the present pulp mill installations. It operates primarily on waste spruce and pine available from the Veitsiluoto sawmill.

All of the pulp is produced for sale—and will meet customer's requirements, mill officials say. It may be made with alkaline or acid liquor.

News of the operation was brought to *PULP & PAPER* and its readers by R. G. Goodwin, director of sales engineering head of, Pandia, Inc. (formerly Paper & Industrial Appliances). It supplied an 8-pipe Chemi-Pulper continuous digester, a key installation in the process. An Asplund Defibrator and Sprout-Waldron Refiner are other linked units in this operation which are found in semi-chemical operations.

Mr. Goodwin was in Finland recently for the start-up and reported its sig-



COMPLETE INSTALLATION of 8-pipe Chemi-Pulper at Veitsiluoto Mill in Finland is shown. The Asplund Defibrator, hooked up with the Chemi-Pulper, is shown in the pit below. Hot stock coming from the Chemi-Pulper is refined in a Sprout-Waldron Refiner. The pulp is produced for sale.

nificance in the export market. Finland has for many years been a big factor in the U. S. pulp market with other grades—and now with semi-chem.

C. W. Converse of Sprout, Waldron & Co., Inc., is another sales engineer active



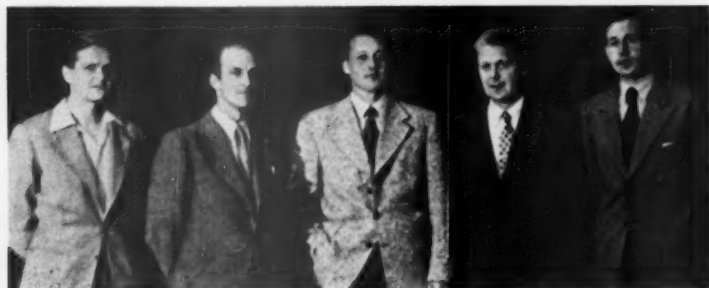
R. G. GOODWIN (left), Director of Sales Engineering, **PANDIA, Inc.**, formerly Paper & Industrial Appliances, back from European tour, brought news of Semi-Chemical mill built in Finland to make pulp for export market.

C. W. CONVERSE (right), Sales Engineer for Sprout Waldron & Co., Inc. He also told *PULP & PAPER* of interest in new sources for market pulp in Semi-Chemical grades. Better utilization of wood and lower costs are factors that should put Semi-Chem pulps into the market, he said.

in the semi-chemical pulping field who recently told *PULP & PAPER* of indications for strong pulp market possibilities in that grade. Semi-chem. pulps, although dating back in the U.S. to the development of the Mead mills in the chestnut belt 25 years ago, had its most intensive development in just the past few years, bringing into use wasted or little used wood.

The general flow at the Veitsiluoto operation calls for continuously feeding of screened pine or spruce chips to the Chemi-Pulper, and equipment is available to pre-soak the chips if required. The hot stock coming from the Chemi-Pulper is refined in a Sprout-Waldron Refiner. The pulp passes on to the hot stock chest and is pumped directly to a stainless steel vacuum washer which is equipped with a repulper. The pulp may go directly to a Kamy wet machine from the washer or it can pass over a screen and thickener and then to the wet machine.

Most of the equipment in the Veitsiluoto mill is made from 316 stainless steel; therefore, they are in a position to use either acid or alkaline cooking liquors. The Chemi-Pulper continuous digester has the ideal flexibility this operation requires and will generally be used to produce pulps in the 50% to 75% yield range, using either acid or alkaline cooking liquors, said Mr. Goodwin. He said the Veitsiluoto Chemi-Pulper at the present time is operating with waste spruce and an alkaline cooking liquor producing pulp for export.



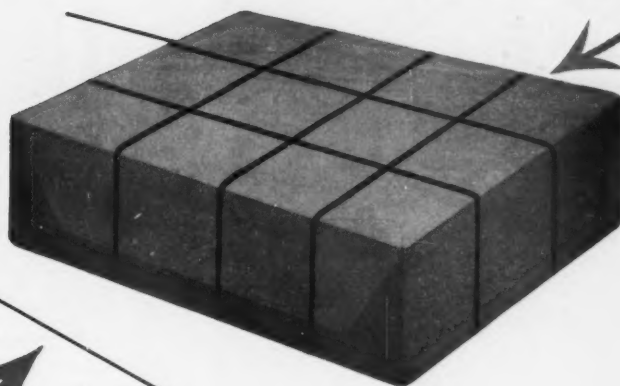
R. G. GOODWIN, Director of Sales Engineering, **PANDIA, Inc.**, of New York City, is shown with key personnel at Veitsiluoto Osakeyhtiö, in Veitsiluoto, Finland. L to r: **Junno Laanti**, Asst. to Chief Chemist; **Matti Rautakorpi**, Planning Engineer; **Heikki Sihtola**, Mill Manager; **Mr. Goodwin**, and **Seppo M. Saukkonen**, Chief Chemist and Semi-chemical Pulp Supt.

Lyddon & Co.

exporters of wood pulp
to all world markets

Parsons & Whittemore

paper exporters
wood pulp



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Stadler, Hurter Serves Foreign Mills

Stadler, Hurter & Co., consulting engineers, Montreal and New York, are completing their contract for the designing of a 350 ton daily capacity sulphite pulp mill for Kymmene Aktiebolag, Kuusankoski, Finland. While major equipment has been ordered from European manufacturers, approximately \$300,000 worth is being purchased in the U.S.A. through their New York office. Stadler, Hurter have designed, for the same company, an extension to their steam generating plant at Woikka, Finland. The new boiler is by Combustion Engineering-Superheater Co.

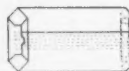
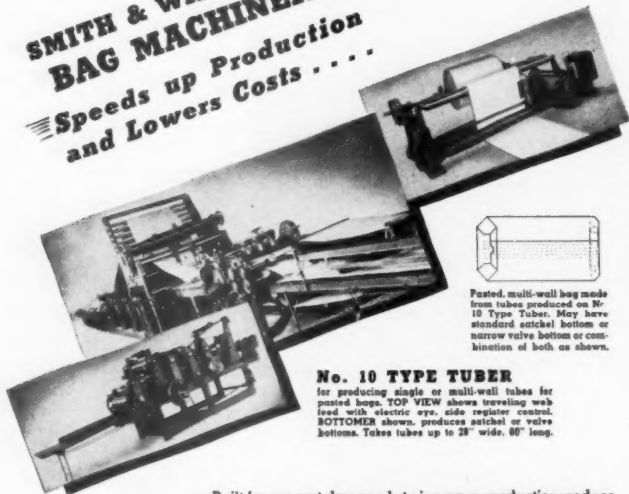
Business relations with foreign countries are resuming rapidly after a lapse of many years. The company has served Aug. Eklof A/B, Borga, Finland; Papierfabrik Perlen, Switz.; A/S Union Co., Skien, Norway; Paper Industries Ltd., Zurich, Switz.; Nihon Pulp Co., Tokyo; A. Ahlstrom O/Y., Karhula, Finland; Van Gelder Zonen N.V., Velsen, Holland; Tammelfors Linne och Jern Manufaktur A/B., Inkeroinen, Finland; Government of Pakistan (East Bengal Paper Mill Project), Karachi.

WILLIAM G. REED, chairman of Simpson Logging Co., which recently became owner of Everett Pulp & Paper Co., and also operates a fiberboard plant in Shelton, Wash., decided his new interests would be served better by going back to the University of Washington for a chemistry course.

ENGINEERING GRADUATE WANTED

Papermaking or chemical engineering graduate 28-40 years old with 5-7 years' technical experience in paper or paperboard. Man selected will be responsible for supervision of testing laboratory and process development work in a progressive midwestern board mill and converting plant. Salary commensurate with experience. Excellent advancement opportunities. In replying give complete background of education, experience and salary requirements, along with recent photograph. Please reply to P&P Box 107, c/o PULP & PAPER, 71 Columbia Street, Seattle 4, Wash.

SMITH & WINCHESTER BAG MACHINERY Speeds up Production and Lowers Costs . . .

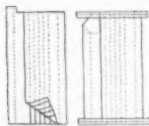


Pasted, multi-wall bag made from tubes produced on No. 10 Type Tuber. May have standard notch bottom or narrow valve bottom or combination of both as shown.

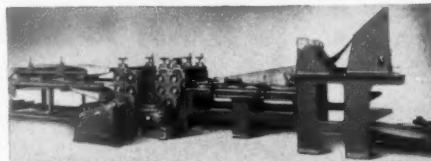
No. 10 TYPE TUBER

for producing single or multi-wall tubes for pasted bags. TOP VIEW shows traveling web feed with electric eye, side register control. BOTTOMER shown, produces notch or valve bottoms. Takes tubes up to 28" wide, 80" long.

Built for present day needs to increase production; reduce spoilage and lower unit costs. These machines are custom-made to your requirements and will give continuous, trouble-free service. Increase your profits by speeding up production with Smith & Winchester equipment.



Multi-wall, sewed valve type, gusseted tube made on Smith & Winchester Multi-wall Tuber.



S & W MULTI-WALL TUBER

Up to 100,000 valve notch tubes each 8-hour day may be produced on this Multi-wall Tuber for sewed valve bags. One to 6 walls. Machine built in 2 sizes, 20" and 26" face. Up to 6" gussets. Tubes 26" to 30" long. Improved cross pasting units, photo-electric compensating drives and flying splice paper roll stands can be furnished. If you have a bag problem write us.

THE SMITH & WINCHESTER
Manufacturing Company
South Windham, Conn.

SERVING THE PAPER INDUSTRY SINCE 1929

A NEW DIMENSION IN FORESTRY

More and more forest industries, timber holders, logging operators and financial institutions are using our services in the following fields:

- GENERAL CONSULTATIONS
- TIMBER MANAGEMENT
- UTILIZATION
- PROTECTION
- SILVICULTURE
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- SURVEYS
- PHOTOGRAMMETRY
- APPRAISALS
- MANAGEMENT
- FINANCE
- INSURANCE
- PUBLIC RELATIONS
- MARKET SURVEYS AND TRADE EXTENSION
- PURCHASING, TRAFFIC AND INSPECTION

We invite you to consult with our Foresters, Engineers and Managers.

C. D. SCHULTZ
A COMPANY LIMITED
FORESTERS & ENGINEERS
MANAGEMENT CONSULTANTS
VANCOUVER • SEATTLE

BLEACHED SULPHITE PULP FOR SALE

I can offer quantities of Bleached Sulphite dissolving wood pulp for spot and future deliveries. Kindly address: Richard J. Bambrick, 125 Broad Street, New York 4, New York.

FOR SALE

One Hesse-Ersted Chip Screen, 7½ HP. Top Screen 7½x16", 1x1½" hole. Solid bottom screen 7½x12", ½x¾" hole. Solid sheet underneath. Good operating condition. Price \$1250 F.o.b. Dallas, Oregon. For further inquire purchasing office,

**WILLAMETTE VALLEY LUMBER
COMPANY**
Dallas, Oregon

WANTED PAPER MILL ENGINEER

Leading Engineer-Constructor firm has opening for Pulp & Paper Mill project engineer at Pittsburgh Headquarters. Must have 4 or more years experience in pulp and paper mill design. In first letter submit complete resume of personal background, education, age and experience. Write to Mr. O. M. Rutledge, c/o The Rust Engineering Company, 575 Sixth Avenue, Pittsburgh, Pa.

ENGINEER — SALES

Position with responsibility in an established organization selling high quality testing and control equipment for heavy chemical, paper, and forest products industries. Prefer graduate mechanical, electrical or chemical engineer, aged 26-36, in good health with established sales experience. Location—Pacific Northwest. Position requires and rewards integrity, energy and individual initiative. Reply to P&P Box 106, c/o PULP & PAPER, 71 Columbia St., Seattle, Washington giving experience, qualifications, personal information and photograph for strictly confidential use. Interview can be arranged.

PULP & PAPER

Struthers Wells Heaters

Struthers Wells announces a standard line of direct fired heaters, capacities 100,000 BTU per hour to 15,000,000 BTU per hour. This equipment is designed for a wide range of applications, including indirect circulating heating using heat transfer mediums such as Dow-therm, and for direct heating of vapors and liquids. Temperatures range to 750°F or above.

The equipment is designed for high thermal efficiencies and trouble free operation. New Bulletin B-45 describes this equipment. For a copy write to this publication or direct to Struthers Wells Corp., Warren, Pa.

Cochrane Publication

Cochrane Corp., Philadelphia 32, Pa., has just issued a new bulletin, numbered Publication 4520, on Sodium Zeolite Water Softeners, headed "Cochrane Zeolite Softeners featuring the Cochrane Hydromatic Single Control Palve." This publication gives a detailed explanation of the sodium zeolite softening process containing a definition of terms employed in this description, the data necessary for laying out a zeolite water softening plant, the factors governing the sizing of such equipment, the selection of zeolite material and a description of both siliceous zeolites and non-siliceous zeolites and a description of the four steps of operation of a zeolite softener.

Norway Making Soda, Chlorine

Two new plants for the making of caustic soda and chlorine, formerly imported from Germany, have been completed in Norway, according to word received through chemical industry observers by PULP & PAPER. Also under construction is a new plant for superphosphates from sulfuric acid. All three, it is said, represent urgency toward self-sufficiency in vital chemicals, due to world situations.

Weyerhaeuser Program

Weyerhaeuser Timber Co. sponsors a weekly radio program, "Youth Views the News," over 10 stations in Oregon and Washington.

The broadcasts originate in high school assembly sessions. Four outstanding students express views on current news. Following this a microphone is taken into the audience and other students comment. It is spontaneous and non-rehearsed.



NASH VACUUM PUMPS
are simple

One moving part. No valves, no pistons, no sliding vanes, no internal lubrication. This makes possible important operating advantages no other type pump offers.

Plus—

NASH
PER MILL
NOW-HOW

NASH ENGINEERING COMPANY
416 WILSON AVE., SO. NORWALK, CONN

Personals

SOUTHERN NOTES

N. T. BARRON, chief forester of Camp Mfg. Co., Franklin, Va., is adding four foresters to his staff to help oversee the company's extensive holdings and procurement.

OTIS B. SMITH, who was engineer and later general superintendent at Potlatch Forests Inc., new mill in Idaho, has returned to International Paper Co. in the South, on new construction at Natchez, Miss. "O. B." was born in Alabama. He was on I. P. mill construction in the South from 1934, beginning at Panama City, until the war, when he went into the container division, helping build box plants at Springhill, La., and Wooster, Ohio.

P. H. (BUD) FIELDS, of Kreole, Miss., has been appointed to represent Appleton Woolen Mills, of Appleton, Wis., in the Southern state of Ark., Tenn., North and South Carolina, Ga., Fla., Ala., Miss., La.

and Texas, according to Allen Theurer, secretary of the company. Mr. Fields has had 25 years in the Southern industry, until recently with one of the largest producers of kraft papers in the South. He succeeds **S. L. BITTNER & Sons** of Mobile, Ala., in representing the felt mills in that territory.

BILL BRYDGES, of Lynchburg, Va., is another industry veteran who has held chairmanships of two different divisions of the Superintendents Association. Mr. Brydges was chairman of what is now the N.Y.-Canadian Division in 1924-25. Then, early in his career in the South, he became chairman of the Southeastern Division in 1928. Of course, as is well known, he was national president of the association in 1933 and for some years has been a trustee. **CAM NIEDERHOF** has taken over the management of the woods department of the Charleston, Va., plant of West Virginia Pulp & Paper Co.

MAURICE L. HUNT is new personnel superintendent for Coosa River Newsprint Co., Coosa Pines, Ala., succeeding **GEORGE KOONS**. Mr. Koons, at Coosa for three years, returned to Kimberly-Clark headquarters in Neenah to join its industrial relations manpower division. Mr. Hunt came from Neenah.

St. Regis Starts Another Bag Plant

St. Regis Paper Co. has commenced construction of an addition to its multiwall bag plant at Pensacola, Fla., where completion of new paper mill with Bagley & Sewall machine has about two months to go. The expansion of the bag plant comprises a two-story addition 360 feet by 144 feet and one-story office addition, 36 by 360.

The company also reports good progress in construction of a new bag plant at Tacoma, Wash., which will replace the leased plant the company presently operates at Seattle.

New West Va. Distillation Unit

The history of West Virginia Pulp & Paper Co. in pioneering by-product manufacture by the industry has been further enhanced through the placing into operation at Covington, Va., of a new tall oil deodorizing unit incorporating improved design features.

The new unit is said to improve oil quality through higher refinement by new techniques in vacuum distillation. It was designed and erected by Rust Process Design Co., Pittsburgh, Pa.

LOOKING FORWARD—FORECASTS FOR 1952

(Continued from page 32)

Said Vertrees Young, executive vice president of Gaylord Container Corp.: "Prospects look fair to strong. We anticipate improvement as defense production picks up upon completion of tooling up and construction. Present pulpwood ceilings are adequate and do not now constitute a hazard to wood procurement in this region."

Clyde B. Morgan, president of Rayonier, Inc., in estimating net sales for his company of about \$84,000,000 for 1951—up 18 million over 1950—said there has been no sign of let-up in demand for the dissolving pulp output of his company, and expects the operations to continue at capacity through 1952. Rayonier by mid-1952 will add from 40,000 to 45,000 tons to its present capacity of 430,000 tons as a result of expansion programs being completed at all four of its mills. Another major development at Rayonier is participation with Crown Zellerbach Corp. and Soundview Pulp in an auxiliary sulfur production project in Wyoming, also expected to be producing by the middle of the year. Rayonier is to get 50% of the output of 100 tons daily, with the other two companies sharing the remainder.

Spokesmen for Union Bag & Paper Corp. estimate net earnings for the company in 1951 will approximate \$12,000,000 on sales of about \$105,500,000. If current demand is maintained and nothing occurs to disturb the profit structure, 1952 sales should be higher with the net remaining about the same, they say. On the production side, **Gunnar Nicholson**, vice president in charge of manufacturing,

says the current expansion program will add 500 tons per day capacity by August 1953, including 300 tons a day of corrugating medium from the neutral sulfite semi-chemical plant. This is to be followed by further expansion to bring Union Bag to world record production of 2000 tons per day, including 400 tons of semi-chemical.

William Mazer, executive vice president of Hudson Pulp & Paper Corp., says the general business outlook for 1952 "appears highly favorable. With full employment, heavy governmental spending for defense purposes, and the general high level of prosperity which Americans are enjoying, it seems virtually certain that demand for paper and paper products will continue unabated." The opening of Hudson's addition to its mill at Palatka, Fla., production, and payrolls there were doubled.

Commented **John E. Alexander**, president and general manager of Nekoosa-Edwards Co., which announced a 40 cent dividend and 25 cent special dividend, bringing 1951 dividends to \$1.55: "The demand for our papers continues strong. We see no signs of let-up except in a few isolated cases."

H. R. MacMillan, chairman of the board, MacMillan & Bloedel, Ltd., Vancouver, B. C.—"British Columbia forests for the future will contain a vastly greater proportion of trees suitable only for pulpwood and not for lumber or plywood. The company's forests will provide years of life for sawmills, plywood and shingle mills.



One of the Men Behind Eastwood Wires

Patrick Edward Daley

"Ambassador" to NEW JERSEY — PENNSYLVANIA — DELAWARE
MARYLAND — VIRGINIA — OHIO

You know him better as "Pat" Daley, one of our able field men. Though his territory is defined, there are no limits on his wide friendship, his unfailing good nature or his knowledge of the paper field—the last acquired through service in mills that belong in the paper industry's "Who's Who", in-

cluding production of ground wood specialties, kraft and bag papers, newsprint and other specialties. His long experience in supervisory capacities in both large and small mills has helped us to serve the paper industry better since he joined us in 1935. We are happy to acknowledge his valuable services.

EASTWOOD-NEALLEY CORPORATION • Belleville, N. J.

COMMUNITY RELATIONS 'TOOL' - PAPERMAKING KIT



USE OF PAPERMAKING KIT is demonstrated here by an originator—JIM WENGER, Tech. Supvr., Crown Z, Port Angeles newsprint mill. He is holding a test leaf with Fourdrinier wire and suction bulb. This demonstrates how water is removed on Fourdrinier. Heated household iron at left demonstrates water removal. Note rolling pin (press section) below his left elbow. Complete directions come with kit—even to saving white water.



IN SECOND PICTURE, Mr. Wenger is removing water on a blotter. The blotter represents a felt. This step comes after the sheet has been formed.

IN THIRD VIEW, Mr. Wenger is couching the sheet on the blotter. Use of the blotter, instead of a felt, speeds up the demonstration. In these views will be noted samples of sulfur, pulp and chips on the table.



ROBERT MARRIOTT, Tech. Supervisor, Port Townsend, Wash., kraft mill of Crown Zellerbach, is using a Papermaking Kit here which is equipped with materials for making kraft paper instead of newsprint. In tiny jar at left is salt cake; chips and kraft pulp are in bottles. Kraft comes off easier, in this demonstration of couching a small sheet, than does newsprint. The newsprint has to be peeled off carefully.

Paper is actually made in school classrooms of paper mill towns on the Pacific Coast with an ingenious and compact papermaking kit, first developed in Port Angeles, Wash. Pictures above show some scenes in papermaking demonstrations carried out with these kits—the ones in the illustrations being for newsprint and kraft.

Germ of the idea came from a Teacher's Workshop held over a year ago in Port Angeles, attended by John L. Farley of Crown Zellerbach's public and industrial relations department. It was felt that school kids should have more preparation in their classroom for open houses and tours of local industries. Mr. Farley got together with Jim Wenger, technical supervisor of CZ's Port Angeles mill and they selected the materials and implements for kit that would enable kids to do the job simply, quickly and with a minimum of slopping of water and other annoyances.

For simplicity's sake—while still teaching the actual principles and processes—an ordinary household flatiron represents a drier roll; a rolling pin, the press section of a machine, etc. Samples of actual wires, felts, etc., are included, and a text booklet. With sulfur, salt cake, pulps and chips in jars and beakers, it wasn't long before the kids could make paper as quickly and neatly as the technical men shown in the pictures above.

Other paper mill managements wanted the kits for their schools and the game has caught on like wildfire.

The C-Z booklet "Paper—Its Story" is the text supplement. There are also two short film strips—one shows in simple pictures and words, the basic principles, including illustrations of the use of the kit. The other strip shows photos and diagrams of actual mill operations. This is particularly useful in being shown just prior to a mill visit.

Man uses paper more than any other commodity except water. You are in an indispensable industry.



How do you judge a SCREEN PLATE?

NOT BY LOOKS ALONE

If you are like most paper people you want a plate that is durable and rugged enough to stand up to hard knocks while doing its job efficiently.

We can show you a good list of customers

who say **UNION
SCREEN PLATES**
are durable and rugged
and **UNION SCREEN**
gives tops in service

**STAINLESS
METALS**

**CORROSION RESISTANT
BRONZE**

**BRONZE FLAT AND
CYLINDRICAL PLATES**

"CHANNEL BACK"

U. S. PAT. NO. 2,419,195

"CORROSIST"

TRADE MARK REG. U. S. PAT. OFF.

UNION SCREEN PLATE COMPANY
FITCHBURG, MASSACHUSETTS

Pacific Coast Representatives:
PACIFIC COAST SUPPLY CO.
Portland, Oregon

Southern Representative:
T. LAWRENCE JOHNSON
P. O. Box 143, Birmingham, Ala.

Personals

PACIFIC COAST NOTES

GORDON PETRIE, Pacific Coast manager for the Black-Clawson companies nearly beat the stork though that bird had about a 150-mile head-start! It happened a few months ago. While making calls at Olympia, Wash., he learned by telephone that his wife Shirley was leaving home in Portland, Ore., enroute to hospital. Gordon's brother Bruce, assistant chief engineer at Olympia Brewery Co., rushed Gordon to the airport just in time to board a plane

taking off for Portland. An acquaintance aboard this plane, whose car awaited him at the Portland airport, took Mr. Petrie directly to the hospital, arriving only moments behind Mrs. Petrie and ahead of the stork. It was an 8 lb. boy.

DAVE HARRIS, manager for C. C. Moore & Co. in Seattle (B & W representatives), and **FRED ARMBRUSTER**, manager for Dow Chemical, are recent new members of Seattle's Rainier Club.

VERNE BASOM, resident manager, Fibreboard Products Inc., Port Angeles, recently received a 35-year pin for service with the company. For 30 yrs., pins went to **ART BENSON**, **JESSE BONNAR**, **JACK CLAY**, **HANS HANSON**, **HARRY WILSON** and **WENDELL WOLFE**.

ARTHUR J. NORTON, consulting chem-



J. E. (Ed) GARRISON (standing in seaplane cockpit), Pacific Northwest Mgr. for American Cyanamid Co., headquarters at 2207-1st Ave. So., Seattle, got this picture of himself, with a 31 lb. fighting King salmon caught on a 12 lb. line, in the public prints. Reason: He and companions flew to Neah Bay, Wash., caught their fish, and flew back home in just a few hours.

A NEW DEVELOPMENT BY

Lindsay

Following considerable research and testing, we now make available to the paper industry a Fourdrinier wire with a plastic seam edge reinforcement (*patent applied for*). The plastic impregnation replaces the standard sewn steel edge and will be incorporated on future wires. This step forward is evidence of our pledge to "never cease trying". The Lindsay Wire Weaving Company, Cleveland 10, Ohio.

Lindsay WIRES

FOR PAPER MILLS

ist, Seattle, tells one on himself—when a secretary was about to leave his employment (she said she didn't dare tell him before), she confided to him that she had filed all his papers and speeches under the heading "Bologna."

DAVE FULTON, Westinghouse representative in Portland, Ore., area who is widely known in this industry, has been transferred to San Francisco by that company.

ARTHUR W. TOWNE, who has become new Gen. Mgr. of Blake Moffit & Towne, in San Francisco headquarters, is grandson of one of its founders. He graduated from U. of Calif. 1916, and after overseas army service, entered BMT as paper salesman. He became a V.P. in 1932 and two years later Mgr. of San Francisco division. He headed NPFA in 1947.

JAMES A. GRUNER, who succeeds Mr. Towne as San Francisco division manager, has for some years been assistant to the manager, prior to which he was sales manager for the printing paper department. He is past president of the San Francisco Club and Printing House Craftsmen.

St. Helens Anniversary

St. Helens Pulp & Paper Co., St. Helens, Ore., observed its 25th anniversary of paper production Dec. 24. According to Max R. Oberdorfer, executive vice president and general manager, the organization produced its first paper Dec. 24, 1926, the plant then having capacity of 60 tons per day. Present production averages 185 tons per day and will be increased to 225-250 tons with completion of a program now under way.



IN PACIFIC COAST NEWS



ARTHUR W. TOWNE (left), who has been elected Gen. Mgr. of Blake, Moffitt & Towne, Pacific Coast paper distributors, succeeding the late Otto W. Mielke, according to James W. Moffitt, President.



A. S. (STEVE) VIGER (right), formerly well known as Superintendent for mills in Shelton, Wash., and recently new Production Mgr. of the hardboard fiber mill recently started up at Dee, Ore., by Oregon Lumber Co. is now Technical Advisor to American Mfg. Co., Tacoma, Wash.

HALVAR LUNDBERG, who represents Chemipulp Process Inc., General American Transportation, Sandy Hill and other lines in the Pacific Northwest out of Seattle, will be off to Sweden again come March, accompanied by his wife and a daughter. He will again visit his two aged parents and take in a few pulp mills.

MAX OBERDORFER Sr., president of St. Helens newspaper the day -hsenre St. Helens Pulp & Paper Co., was honored in a special edition of the St. Helens newspaper the day before the 25th anniversary of making first commercial paper at the mill he built there, Jan. 2. It told how he was born in Heidenheim, Germany, in 1883, worked in mills in Bavaria, came to the U. S. in 1907 and helped build mills at Muskegon, Mich., and Filer City, Mich. He became president of St. Helens in 1929. **MAX R. OBERDORFER**, his son, v. p. and gen. mgr. of the company, also was paid a tribute in the paper, which told of valued experiences he had with Voith Works and the Oscar Dietrich mills in Germany, also at Springhill, La., and Camas, before joining St. Helens in 1940 as plant engineer.

IRVING T. RAU, a Wisconsinite and secretary of St. Helens for all its 25 years; **C. W. SHERMAN**, from Detroit, who became treasurer just last year and heads the bag plant; **F. S. MORGAN**, Canadian-born plant engineer who worked in Africa, Britain and mills in the U.S.; and several other executives in the mill had their stories and pictures in the paper.

Besides President **OBERDORFER** and Secretary **RAU**, seven others worked in the kraft mill thru its entire 25 year history: **HERMAN SWANZ**, **GEO. WRIGHT**, **JOHN E. CURTEMAN**, **HERBERT L. EATON**, **JOHN EDWARDS**, **SCOTT ROLLINS**, and **CLARENCE SHADLEY**.

Changes at C-Z Corp.

The plant engineering department of Crown Zellerbach Corp., Camas, Wash., has under Plant Engineer O. T. Defieux undergone re-alignment of authority of personnel. Where six men formerly headed activities under the plant engineer, three project engineers sectionally head up the departmentalized specialty activities under Mr. Defieux.

The project engineering sections—processes, properties and structures, and services—are in turn further divided into specialty components headed by key individuals reporting to the respective project engineers.

Lee Maybach is project engineer in charge of processes. Lyall Burnett is project engineer in charge of properties and structures and Project Engineer Don Platt has supervision over plant maintenance, steam and electric power.

C. L. KOERNER, former Wisconsin mill engineer, who heads Koerner Engineering & Supply Co., 7604 Southeast 17th Ave., Portland 2, Ore., representing Sandy Hill, Roots-Connersville and other lines, is planning to attend Paper Week in New York and visit some of his principals.

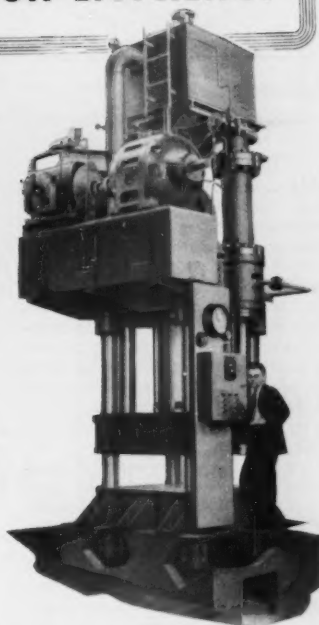
Mielke, Pioneer In West Dies At Age Of 80

The many friends of Otto W. Mielke, 80, general manager, Blake, Moffitt & Towne, San Francisco, were saddened to learn of his death last month. Mr. Mielke had been with the pioneer Pacific Coast paper distributing firm 52 years, as general manager since 1932. Born in St. Joseph, Mich., he went to San Francisco in 1892, going to work for the telephone company. In 1899 he joined the paper company in Portland, Ore. By 1913 Mr. Mielke was in charge of Pacific Northwest operations.

ENGINEERED & MANUFACTURED FOR PRODUCTION EFFICIENCY

- Hydraulic barkers
- Paper dryers
- Pulp balers
- Hot presses
- Logging equipment

The 1,000-ton rapid traverse pulp baling press shown at right is one of two recently delivered by Washington Iron Works to a major West Coast pulp plant. They are completely automatic, with advantages in speed, ease of loading and efficiency of operation.



Specialized experience, integrated manufacturing facilities and centralized responsibility—applied to both standardized and custom-built equipment for logging, pulp and paper, plywood and hardboard production.



Since 1882

WASHINGTON IRON WORKS

1500 6th Avenue South, Seattle 4, Washington

El. 1292

ROBERT'S BURRS

INSURE

Lower Stone Costs Better Pulp



Pacific Coast Supply Company
PORTLAND, OREGON • SAN FRANCISCO, CALIFORNIA

MANAGEMENT MEN

(Continued from page 52)

loyal should be removed. When men have seen the evidence of loyalty to them, they will give their all out best to the cause.

"Probably the greatest stimulant of all comes from the feeling of being placed for your whole work life; that you have enlisted for whatever period of work lies ahead of you; until the grim reaper or retirement steps in. Our task is to create such a desire in executives and potential executives. That means giving them the maximum possible of the things we would want if in their place. It is actually just as simple as that.

"The peak is reached when the individual has a deep conviction that his company's moral and social influence extends beyond its corporate activities and that, by reason of this, his job offers him an opportunity to make the world just a little bit better for other people. Watching bricklayers, a sidewalk superintendent said to one 'What are you doing?' He answered, 'Laying brick.' Later he asked another bricklayer the same question. His answer was, 'building a cathedral.' There is the same difference in conception among executives in business."

New Atlanta Plant

International Paper Co. has opened a new \$1,000,000 plant in Atlanta, Ga., for the manufacture of paper milk containers.

TAPPI Medal Awarded To Raymond S. Hatch

Raymond S. Hatch, now research director for the Southern Division of Hudson Pulp & Paper Corp., Palatka, Fla., and for many years research director of the Pulp Division of Weyerhaeuser Timber Co., at Longview, Wash., has been awarded the 1952 TAPPI Gold Medal. As customary, the award will be made formally at the TAPPI convention in the Hotel Commodore, New York, on Feb. 21.

Graduate of Syracuse, 1904, Mr. Hatch was associated with Ray Hill and R. B. Wolf, in the Pulp Bleaching Co. for a number of years. When Mr. Wolf went west to head Weyerhaeuser's new Pulp Division in the '20's he brought Mr. Hatch with him. Mr. Hatch is a former president of TAPPI.

Association Appointments

Albert W. Luhrs, executive manager, National Paperboard, 80 East Jackson Blvd., Chicago 4, and Fibre Box Association, 224 So. Mich., Chicago 4, announces these appointments:

Merritt C. Thiem, assistant to the secretary and traffic counsel of Fibre Box Association and National Paperboard Association.

John H. Erbe, assistant to the secretary, NPA and FBA.

Warren F. Wescott, assistant statistician, NPA and FBA.

Philipp L. Brockington, assistant statistician, NPA and FBA.

D. E. Thomas, assistant traffic counsel, NPA and FBA.

2nd Textbook Volume Contains Much New Info

Another volume in standard texts for the industry, this one Vol. 2, *Preparation of Stock for Paper Making*, in the new series on *Pulp and Paper Manufacture*, edited by J. Newell Stephenson and written by many experts (price \$7.50), has been issued.

Like the new Vol. 1, *Preparation & Treatment of Wood Pulp*, which was issued in 1950, (price \$10.00), it contains much new and up-to-date information, and numerous drawings and illustrations.

Either or both volumes are now available on written order addressed to PULP & PAPER, 71 Columbia St., Seattle 4, Wash.

Vol. 1 is over 1,000 pages. Vol. 2 runs 587 pages, and both contain much more information than earlier editions of 1938 and earlier years.

The new texts have the stamp of approval of the joint textbook committee of the U. S. and Canadian industries, which was originally created back in 1918. This committee holds the copyright. It has been a tremendous task to prepare and publish these works.

In preparation are Vols. 3 and 4—*Manufacture and Testing of Paper and Board and Auxiliary Paper Mill Equipment*.

In Vol. 2 there is a new chapter including semi-chemical pulping and mechanical pulping of pre-treated wood. Revisions include such subjects as agricultural wastes, de-inking, waste paper preparation for board, new refining and beating equipment, fillers and loading, wet strength sizing and coloring.

Columbia River Paper Mills

AT VANCOUVER, WASHINGTON —

. . . another SUMNER-equipped pulp and paper mill wood room with the latest in modern machinery, centered around a medium-size Bellingham-type hydraulic round-log Barker and a 112" disc-diameter Chipper.

Investigate the proven merits of SUMNER-designed and built wood room machinery when you wish to modernize your existing plant or build a new mill.

SUMNER IRON WORKS

EVERETT, WASHINGTON



ARE MADE IN

ORISKANY, N. Y.

by **H. WATERBURY & SONS CO.**

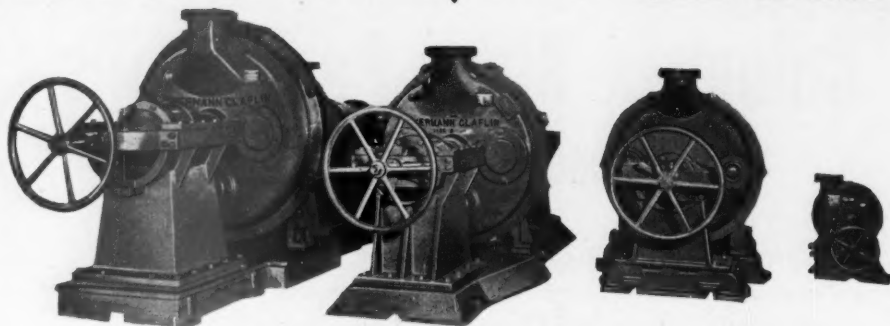
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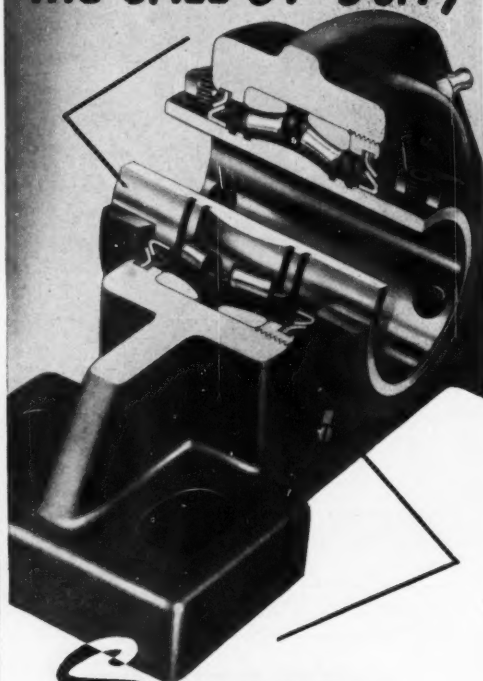
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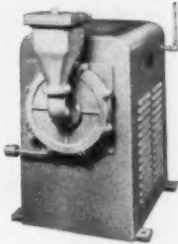
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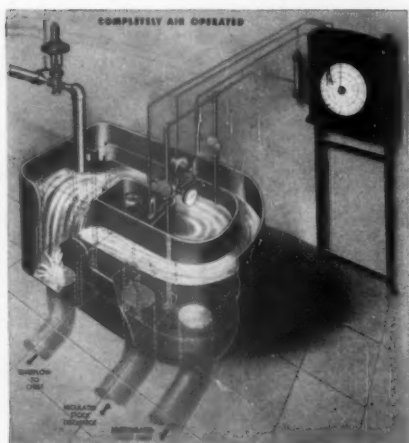
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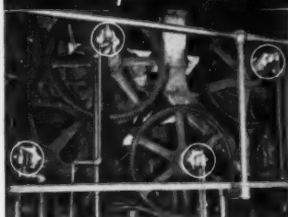
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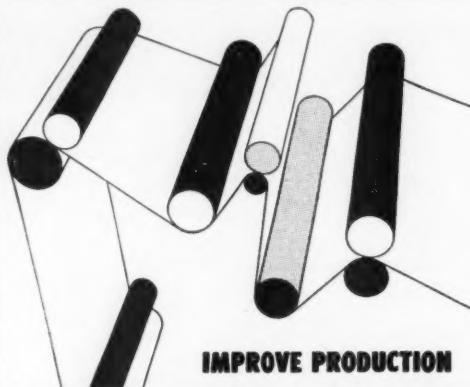


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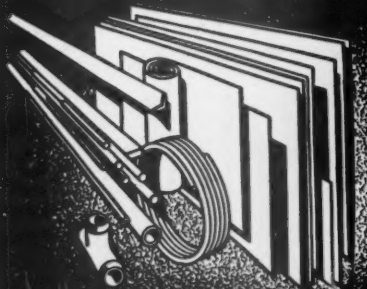
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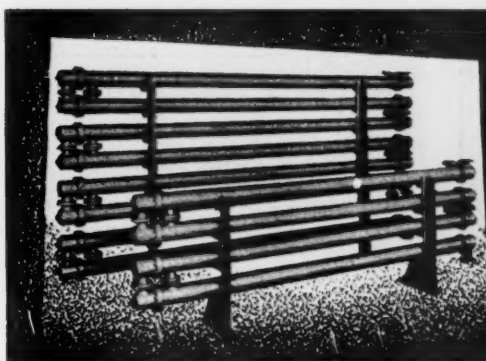
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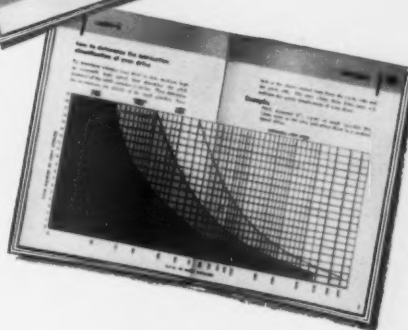
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